

# GEOPAST

## GSA GEOLOGISTS STILL MAKE WAVES *GSA Bulletin*, September 1923

**J Harlen Bretz:** *Glacial drainage on the Columbia Plateau*

Since 1888, GSA Members and their *GSA Bulletin* articles have impacted world thought, and they continue to make news today, influencing not just students and scientists, but the media as well. A fairly recent example of this far-reaching influence is a 2005 PBS episode of Nova, “Mystery of the Megaflood” (see [www.pbs.org/wgbh/nova/megaflood/](http://www.pbs.org/wgbh/nova/megaflood/)), which illustrates the work and conclusions of geology greats J Harlen Bretz and Joseph T. Pardee. The broadcast focuses on what had been a controversial issue in geology: “For decades Washington’s strange Channeled Scabland stumped experts as to its origin—until a pair of geologists named Bretz and Pardee came along and solved the riddle” (pbs.org, 2005).

“‘Mystery of the Megaflood’ features a dogged geologist sticking to his bold theory for decades despite virtual professional banishment” (pbs.org, 2005). That dogged geologist was J Harlen Bretz; his paper “Glacial drainage on the Columbia Plateau” was published in the September 1923 issue of *GSA Bulletin* (v. 34, p. 573–608).

In the paper’s introduction, Bretz writes, “This article endeavors to show that glacial-born streams, under proper conditions, are erosive agents of great vigor over large tracts far from the front of melting ice” (p. 573). Pages later, he states, “Probably the entire highland area north of the plateau was buried beneath the Cordilleran ice-sheet during the Pleistocene glaciations. At least three times the Cordilleran ice forced a crossing of the Columbia Valley and advanced onto the Plateau” (p. 580). Bretz implies that pre-Wisconsin glacial flooding must account for the extent of the “Scablands” on the Columbia basalt plateau, noting “the existence of granite boulders scattered over the basalt plateau of Washington far beyond the limits reached by the Wisconsin ice” (p. 580).

Following expansive descriptions of the channels, coulees, and scabland tracts in the area, Bretz summarizes the “mega-flood” we have now come to accept: “Thus a brief episode in the latter half of the Pleistocene ... introduced conditions under which the scablands ... have been denuded of overlying sedimentary deposits by running water” (p. 607–608).

Joseph T. Pardee’s paper, “Unusual currents in Glacial Lake Missoula, Montana,” which is believed to have helped vindicate Bretz’ conclusion of megaflooding, was published in *GSA Bulletin* in November 1942 (v. 53, p. 1569–1600).

### REFERENCE CITED

PBS.org, 2005, “Mystery of the Megaflood” TV program description, <http://www.pbs.org/wgbh/nova/megaflood/about.html> (Accessed 3 Oct. 2005).