you know you're in

washington when...

. . . you drive through channeled scablands

A geological sacred cow died on the Columbia Plateau, where the channeled scablands cover 75 percent of eastern Washington. Until the 1920s geologists believed that this nearly barren, deeply carved landscape was created by retreating glaciers and erosion. But geologist J. Harlan Bretz could not make the channeled scablands, a term he coined, fit the model. He proposed the geological equivalent of "The emperor has no clothes." Bretz said that catastrophic flooding of the high-desert plateau, the world's second largest lava field, created the scablands. His words ignited a hot geology battle.

Bretz's theory was that at the end of the last Ice Age, a 3,000-square-mile lake up to 2,000 feet deep had been formed by an ice dam in western Montana. When the dam broke, the water of Glacier Lake Missoula raced across the Idaho panhandle and onto Washington's southward-sloping plateau, with water hundreds of feet deep rushing at up to 65 miles per hour.

This deluge sculpted the landscape into coulees (steep ravines), canyons, buttes, and boulder fields, scrubbing bare about 2,000 square miles right down to the basalt. One of the largest gouged-out channels was Grand Coulee Canyon, 50 miles long and 1 to 5 miles across.

The longer he looked, the more evidence Bretz gathered of moving water creating geologic formations in the now-arid countryside. Bretz found plunge pools, undercutting, and cataract retreat—indicating waterfalls, not a retreating glacier.

The two largest waterfalls were the Upper Coulee, where a river once roared over an 800-foot cliff, and Dry Falls near Soap Lake. In both cases the waterfalls had eroded miles upstream as basalt sections were washed away.

By 1965, after more geologists studied the area and aerial photography helped show the patterns, Bretz's theory was accepted. Geologists now call the event the Missoula Flood, the Bretz Flood, the Spokane Flood, or the Ice Age Flood, although there's disagreement over whether it was one huge flood or several catastrophic floods.

Channeled Scablands:

A cataclysmic flood at the end of the Ice Age etched much of eastern Washington into this signature landscape.