Welcome

Thousand Springs State Park
Earl M. Hardy
Box Canyon Unit

Hike a trail that leads to a viewing platform where you see the nation's eleventh largest spring. From the platform, look downstream where the 50-degree water cascades over a 20-foot waterfall. Concentrate and you will detect movement in the pristine canyon and on its 200-foot walls. It is home to several species of birds and animals. Explore the canyon rim as the trail continues another mile.

Megafloods carved the land.

Suppose you were standing here 45,000 years ago. You would have witnessed a megaflord—a catastrophic outbreak of enormous quantities of water in a short period. Megafloods occurred several times in the western United States, tens of thousands of years ago. They played a significant role in shaping the landscape about you. The discharges are thought to have resulted when rocks or glaciers that held prehistoric lakes eroded or melted, releasing the lakes' water in a sudden torrent. Here, the lake water is believed to have come from the Big Lost River, Little Wood River, or Big Wood River drainages.

Evidence for megafloods

The rocks beneath your feet is basalt. Basalt is hard and makes up most of the Snake River Plain. It was formed over the course of 15 million to two thousand years ago through numerous lava flows from central Idaho. As the lava cooled it often formed the characteristic columns you see making up the Box Canyon wall.

It was long believed that Box Canyon formed as the result of nappe erosion from the canyon wall or from water flowing in the spring. Studies revealed that similar looking canyons are built in loose, sandy deposits but not with basalt. Scientists also determined that the spring is strong enough to have eroded such a steep 155 feet high headwall. Measurements of present day and historic water flow show that it is not sufficient to move the canyon's boulders or transport great volumes of sediment. They also recognized "plunge pools" at the base of the headwall giving evidence of ancient waterfalls. Algae marks on rocks above the canyon point to large volumes of water forced over the headwall.

What do Box Canyon and Mars have in common?

Scientists want to understand the geology of Mars looked for comparable features on earth. Box Canyon exhibits similar structural patterns with many Martian canyons. withstands the headwall because its valley sharply angles at its headwall. Similar canyons on Mars may have an analogous water history. The formation of Box Canyon may have given evidence of how ancient floods sculpted the surface of Mars. Geologic change is considered to be slow. But the truth is that some processes like ancient catastrophic floods are capable of creating whole landscapes in a geological instant, whether on earth or on Mars.