Chapter 85

The Example of the Lake Missoula Flood

As already noted, uniformitarian hypotheses rarely, if ever, can be supported by extensive geological evidence. Part of this is due to the nature of the features, since they originated in the past. The same charge could be leveled against Flood explanations.

However, geomorphological evidence for the Retreating Stage of the Flood is strong, as this ebook shows. Whereas uniformitarian scientists have to invent speculative secondary hypotheses to salvage their paradigm in the light of conflicting evidence, the Flood paradigm does not need to invent secondary hypotheses, because the evidence is consistent with the paradigm.

Furthermore, the Flood paradigm has an *example* of how a well-substantiated catastrophic flood at the peak of the Ice Age created a water and wind gap.[1] The Lake Missoula flood (earlier called the Spokane or the Bretz flood) demonstrates catastrophic floods can easily produce water and wind gaps.

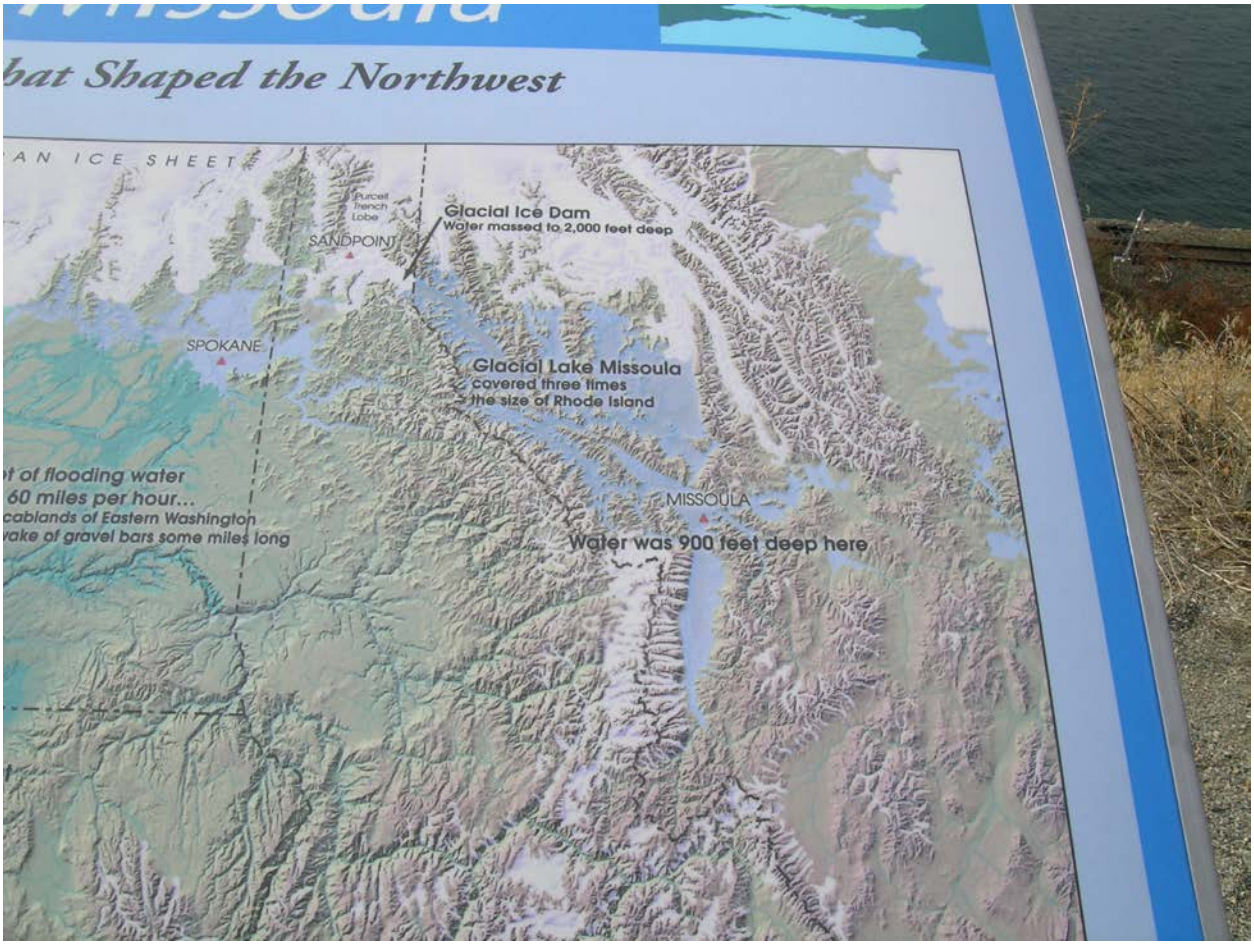

Figure 85.1. Glacial Lake Missoula as shown on a kiosk sign at Lake Pend Oreille.

[1] Oard, M.J., 2004. *The Missoula Flood Controversy and the Genesis Flood*, Creation Research Society Monograph No. 13, Chino Valley, AZ.

The Lake Missoula Flood

One of the largest lakes ever ponded by an ice dam was glacial Lake Missoula (Figure 85.1). After this lake deepened to 2,000 feet (610 m) at the dam site in northern Idaho, the bursting ice dam initiated one of the largest floods on earth, except that described in Genesis. Glacial Lake Missoula contained 540 mi^3 (2,210 km^3) of water and emptied in two days. It rushed through eastern Washington and the Columbia River gorge at velocities over 65 mph (100 kph). It spread through eastern Washington at a width of 100 miles (160 km). The water was about 600 feet (180 m) deep as it sped across Spokane, Washington; 1,000 feet (300 m) deep channeling through the Columbia gorge; and 400 feet 9120 m) deep when it flowed over the Portland, Oregon area. Figure 85.2 is a satellite image of the flood path. It shows well because the flood eroded the lighter silt and exposed the dark basalt below. What you see is a braided drainage pattern over 100 miles (160 km) wide in eastern Washington!

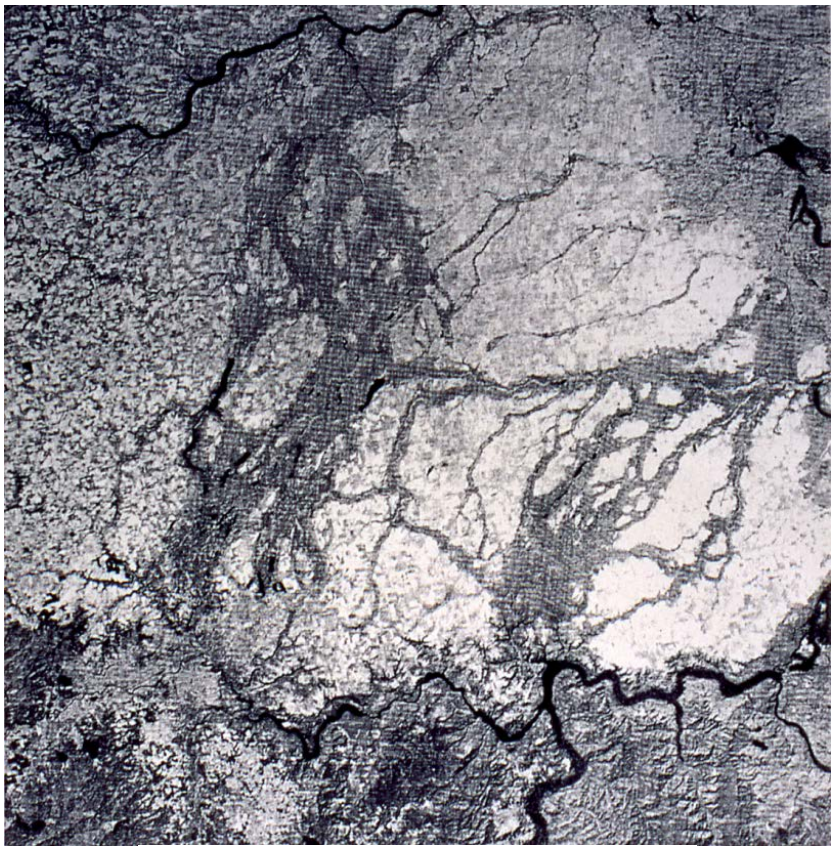

Figure 85.2. Satellite picture of the flood path.

Many geologists today conjecture dozens of Lake Missoula floods at the peak of the last ice age because of the uniformitarian paradigm. However, the evidence is abundant that there was only one major flood possibly followed by a few minor ones.[2,3,4,5,6]

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[2] Oard, Ref. 1, pp. 37-57.
[3] Oard, M.J., 2003. Evidence for only on gigantic Lake Missoula flood. In, Ivey, Jr., R.L. (editor), *The Fifth International Conference on Creationism*, technical symposium sessions, Creation Science Fellowship, Pittsburgh, PA, pp. 219-231.
[4] Oard, M.J., 2000. Only one 'Lake Missoula' flood. *Journal of Creation* 14(2):14-17.
[5] Oard, M.J., 2012. Further evidence of only one large Lake Missoula flood. *Journal of Creation* 26(3):3–4.

The Lake Missoula flood produced many water and wind gaps along the flood path. Paul Bishop stated in regard to the Lake Missoula flood: "Catastrophic divide breaching and drainage rearrangement are prominent features of the Channeled Scabland of northwest USA…"[7] I will focus on only one prominent water and wind gap.

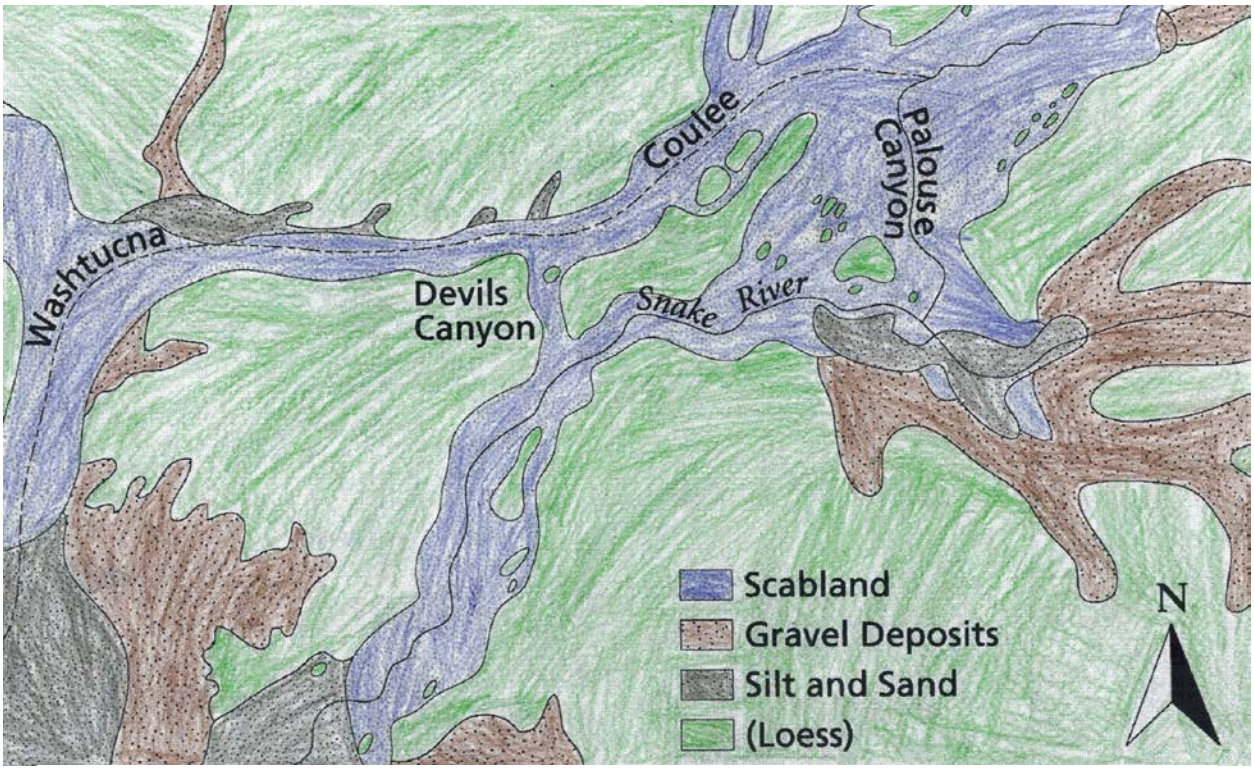

Figure 85.3. Map of ridge between Washtucna Coulee and the Snake River, showing Palouse Canyon, a water gap, and Devils Canyon, a deep wind gap, cut during the Lake Missoula flood (redrawn from Bretz, 1928, p. 205 by Mark Wolfe).

Palouse Canyon Water Gap

One major pathway of the Lake Missoula flood was the Cheney-Palouse scabland tract in the eastern part of the flood path. The southern portion of this tract includes Washtucna Coulee. Prior to the flood, the Palouse River rising from the mountains of northern Idaho flowed westward through this coulee and then into the Columbia River. The Snake River flows parallel to the Washtucna Coulee about 10 miles (16 km) south. There is an east-west basalt ridge that was covered by about 100 feet (30 m) of the Palouse silt between the Snake River and Washtucna Coulee. This ridge is about 500 feet (150 m) above the Snake River.

The Lake Missoula floodwater rushed south into the head of Washtucna Coulee. It overtopped the ridge between Washtucna Coulee and the Snake River at generally four locations, forming a water gap and one deep wind gap (Figure 85.3). At the head of one—Palouse Canyon—its width was initially around 8 miles (13 km), and left behind a number of current-aligned silt hills just west of Palouse Canyon between the water and wind gap (Figure 85.4). But

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[6] Oard, M.J., 2014. The Lake Missoula flood—clues for the Genesis Flood. *Creation* 36(2):43–46.
[7] Bishop, P., 1995. Drainage rearrangement by river capture, beheading and diversion. *Progress in Physical Geography* 19(4):461.

the flow narrowed, cutting a vertically-walled, meandering canyon 500 feet (150 m) deep—down to the level of the Snake River (Figure 85.5). The narrow canyon likely was formed by a "retreating waterfall" from above the Snake River north to Washtucna Coulee. After the flood, the Palouse River, instead of continuing its flow westward through Washtucna Coulee as before, took a 90° left hand turn and flowed through what is now called Palouse Canyon and into the Snake River. Palouse Canyon is therefore a water gap formed during the Lake Missoula flood. Palouse Falls would then represent one of the last *knickpoints* of the retreating waterfall (Figure 85.6).

Figure 85.4. Current aligned silt hills just west of Palouse Canyon.

Figure 85.5. Narrow-walled, meandering Palouse Canyon downstream from Palouse Falls.

Figure 85.6. Palouse Falls in Palouse Canyon, southeast Washington.

Devils Coulee Wind Gap

The Lake Missoula flood also breached the ridge between Washtucna Coulee and the Snake River 15 miles (24 km) west of Palouse Canyon. A narrow notch called Devils Coulee, 500 feet (150 m) deep was eroded through the ridge (Figure 85.7). However, the Lake Missoula flood did not eroded this coulee deep enough at its entrance from Washtucna Coulee. The entrance to Devils Coulee is approximately 100 feet (30 m) above Washtucna Coulee (Figure 85.8), and no stream can flow through it. So, Devils Coulee remains a wind gap.

Figure 85.7. Devils Coulee looking north from near the Snake River.

Large Floods Cut Downstream Water and Wind Gaps

Therefore, Palouse Canyon and Devils Coulee are examples of how large volumes of *energetic floodwaters can rapidly excavate water and wind gaps* in hard rock.[8] The carving of these gaps occurred well downstream from the breach and was caused when the flow overtopped the ridge between Washtucna Coulee and the Snake River, very similar to the schematic shown in Figure 84.1. Like all analogies, the Lake Missoula flood situation is a bit different than the Flood situation. In the Lake Missoula flood, the water rose to overtop the ridge at low points, while in the Genesis Flood the water was subsiding when it carved gaps through the low points in the ridge. The main point though is: water and wind gaps formed during the Flood in much the

[8] Oard, Ref. 3, pp. 228-229.

same way as the Lake Missoula flood—by flood water racing and channelized across a rock barrier.

Figure 85.8. The entrance to Devils Coulee looking south from Washtucna Coulee. Note the rise at the entrance of the canyon prevents water from flowing from the coulee down Devils Canyon to the Snake River.