The Great Missoula Floods

By Matthew Wilson, ISU Geosciences Geol 402 project, 2004

http://www.iceagefloods institute.org/
Interesting Facts

- **Volume:** 2200 cubic Km (slightly larger than Lake Erie and Ontario combined) Lake Bonneville 22,000 cubic km
- **Area:** 7500 square Km
- **Depth:** 700 m
- **Discharge:** 17 million cubic m/s (would drain lake Erie in eight hours)
- **Velocity:** up to 45 m/s (100mph)
- **Occurrence:** at least 1 of above magnitudes (40 – 89 smaller floods)
Evidences of Lake Missoula

Mt Jumbo

Shore lines
Ripples at Camas Prairie, Montana

Amplitude: up to 15m
Wavelength: up to 150m
Scablands, northeastern Washington

www.mines.edu/academic/geology/faculty/klee/missoula.doc
Main Channels of Flood

www.mines.edu/academic/geology/faculty/klee/missoula.doc
Dry Falls
Largest water fall in the world 117m
“Colossal Cataract”

profile from Baker, 1973
water surface added

www.mines.edu/academic/geology/faculty/klee/missoula.doc
Palouse Falls & Gorge

56 m. tall

120 m from top of falls to skyline
Multnomah Falls in the Columbia River Gorge was created when floodwaters incised the main canyon.
Deposits

Pendant bar with ripples at confluence of Palouse and Snake Rivers

Fore-sets in bar dip 26 degrees

www.mines.edu/academic/geology/faculty/klee/missoula.doc
Erratics

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