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[Home](#) / [News](#)

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Newly discovered chasm helps explain island's lack of subglacial lakes

By [Erin Wayman](#)

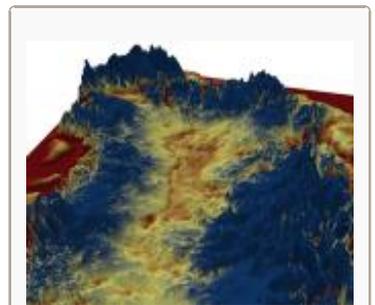
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Greenland has its very own Grand Canyon, but tourists won't see it anytime soon. The recently discovered 750-kilometer-long chasm is buried beneath the island's thick ice.

Glaciologist Jonathan Bamber of the University of Bristol in England and colleagues uncovered the canyon while mapping Greenland's subglacial terrain with ice-penetrating radar. The gorge — up to 800 meters deep, or about half as deep as the Grand Canyon — stretches from central Greenland to the island's northeast coast. A river probably carved the channel before ice spread across Greenland about 3.5 million years ago, the team proposes in the Aug. 30 *Science*.

The researchers suspect that today, meltwater flows through the canyon to the sea. The canyon may be one reason why meltwater at the base of Greenland's ice sheet doesn't form subglacial lakes.

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A 750-kilometer-long canyon (3-D view shown) lies hidden beneath Greenland's ice sheet, a new study reveals. Researchers say a river carved the channel several million years ago, before the island was covered in ice.

Credit: J. Bamber/Univ. of Bristol

Citations

J.L. Bamber et al. Paleofluvial mega-canyon beneath the central Greenland ice sheet. *Science*. Vol. 341, August 30, 2013, p. 997. doi:10.1126/science.1239794. [\[Go to\]](#)

Suggested Reading

A. Witze. Ice in Motion. *Science News*. Vol. 179, March 26, 2011, p. 22 [\[Go to\]](#)

S. Perkins. Subglacial lakes flood, glaciers speed up. *Science News Online*, November 16, 2008. [\[Go to\]](#)

S. Perkins. Melt pond falls through ice in Greenland. *Science News*. Vol. 173, May 10, 2008, p. 15. [\[Go to\]](#)

