

# New Research on the 2002 Collapse of the Larsen B Ice Shelf

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A new study co-authored by NSIDC Research Scientist Ted Scambos and published in Volume 54 of the *Journal of Glaciology* sheds light on the 2002 collapse of a massive Antarctic ice shelf.

Lead Author Neil Glasser of Aberystwyth University in the United Kingdom said, "Ice shelf collapse is not as simple as we first thought. Because large amounts of meltwater appeared on the ice shelf just before it collapsed, we had always assumed that air temperature increases were to blame." The study identified additional factors leading to the demise of the ice shelf.

Researchers found that rifts on the ice shelf had been growing for up to two decades before the sudden event of the summer of 2002. The indications are that the ice shelf was stressed as glacier flow began to increase over the 1990s.

Scambos said, "It's likely that melting from higher ocean temperatures, or even a gradual decline in the ice mass of the Peninsula over the centuries, was pushing the Larsen to the brink."

Scambos pointed to studies that have measured warming of deep Southern Ocean currents, which increasingly brush against the Antarctic coastline. "This led to some thinning of the shelf, making it easier to break apart," he noted. "The unusually warm summer of 2002, part of a multi-decade trend of warming clearly tied to climate change, was the final straw," Scambos said.

Scambos added, "Knowing how these complex, large events work together helps us understand the potential for the collapse of another major ice shelf, such as the Larsen C."

To find the article online, visit the *Journal of Glaciology* at [www.igsoc.org/journal/](http://www.igsoc.org/journal/) .

Source: National Snow and Ice Data Center

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