

Greenland glaciers on the move

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[Environment](#)

[Picture of the Day](#)

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(Image: IceBridge Science Team/NASA)

This glacier in east Greenland is one of over 200 that flow from the Greenland Ice Sheet. The latest measurements of the glaciers' movements suggest that they are not accelerating as much as feared. This in turn suggests that sea level rise this century will be well short of the worst-case scenario.

Ice from Greenland and west Antarctica is [one of the biggest sources of uncertainties](#) when scientists try to forecast [how much sea levels will rise this century](#). Some of Greenland's

glaciers have accelerated in recent years, giving rise to fears that they will [raise sea levels significantly](#).

Based on the physics of ice sheets and glaciers, a 2008 paper argued that [a rise of 2 metres in sea level is the most we could possibly see by 2100](#). That includes a contribution of between 9.3 and 46.7 centimetres from Greenland, depending how much the glaciers speed up and dump ice into the sea.

[Twila Moon](#) of the University of Washington, Seattle, and colleagues have recorded the movements of almost all Greenland's glaciers from 2000 to 2010.

They found an enormous amount of variation, with glaciers that terminate on land moving much slower than those terminating in water. Glaciers in the north-west accelerated steadily while many of the others maintained the same speed.

So far, the overall acceleration of Greenland's glaciers is well below the worst-case scenario, which would require them to speed up by an order of magnitude. Of course we don't know what the ice will do next, and even a [smaller sea level rise](#) will cause widespread problems in [low-lying countries like Bangladesh](#). Also, sea level will keep rising long after 2100. But if this isn't good news, it's at least news that's rather less bad.