ICE melt in parts of Antarctica is at its highest level this millennium, with ice melting 10 times faster each summer than it did 600 years ago. What's more, most of that increase has occurred since the mid-20th century.

Satellite images show Antarctic ice is melting, but scientists weren't sure how unusual this was. To find out, Nerilie Abram, of the Australian National University in Canberra, and colleagues examined a 364-metre-long ice core spanning 1000 years. The core came from the tip of the west Antarctic Peninsula, an area that is warming rapidly.

It revealed layers where snow had thawed and then refrozen with the seasons, showing that the coldest period and lowest ice melt in the past millennium was 600 years ago.

At that time, just 0.5 per cent of snowfall melted and refroze each year. By the start of the 20th century, that figure had doubled and by the end of the century it had increased tenfold. "It's an example of a system where there's a potential for rapid changes once you get to a threshold," says Abram. Each extra degree of warming is causing more ice to melt than in the past.

Putting recent trends in a historical context such as this is important to avoid over-interpreting short-term changes, says Matt King from the University of Tasmania.

Surface melt is thought to cause sea levels to rise by precipitating the collapse of ice shelves.

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