

As a scientist who researches the Southern Ocean, I have a deep personal and professional interest in Australia's national Antarctic program.

Australia's role as a leading nation among the Antarctic Treaty nations relies on our continued excellence in Antarctic and Southern Ocean science.

The prospect of cuts to Antarctic fieldwork would be disappointing in any year. This year it is devastating.

Antarctic sea ice has been at or near record low levels for almost all of 2023. The 2022/23 summer was the second consecutive summer to set a new record for the lowest observed Antarctic sea ice extent. Following this record low, the sea ice extent increased much more slowly than in previous years, and has been approximately 2.5 million square kilometres below the 1981-2010 average for several months. The fact that we are missing an area of ice almost the size of Western Australia is concerning.

Comparing this year's ice extent with previous years reveals that the recent anomalies are completely outside the historical observations. This suggests that something has fundamentally changed in the Southern Ocean and raises the possibility that new factors are affecting Antarctic sea ice.

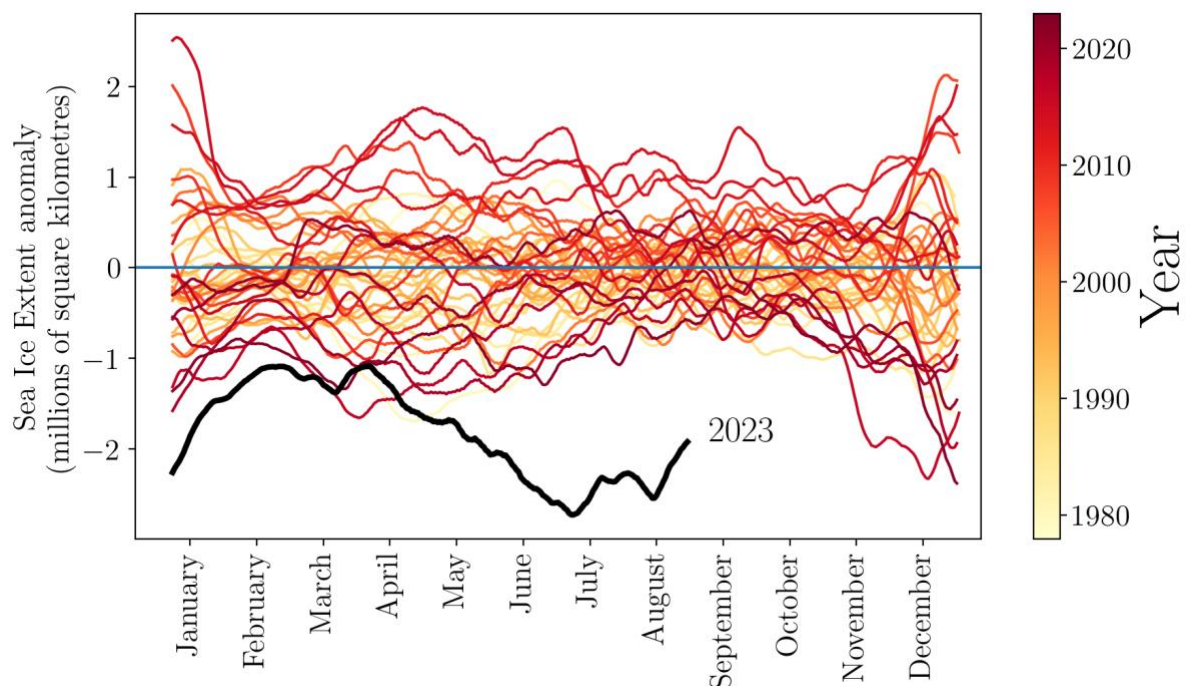


Figure 1: Antarctic sea ice extent in 2023 has been well below historical levels.

In order to understand these fundamental shifts in the Southern Ocean, we desperately need dedicated field campaigns. The emergent funding constraints at the Antarctic Division and continued uncertainty regarding scientific voyages aboard Australia's icebreaker, the RSV Nuyina, undermine our ability to conduct this vital research, potentially jeopardising Australia's role as a leader in Antarctic science.

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