
Loss of Arctic sea ice to doom polar bears by 2075

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By 2075, losing all newborn cubs could be commonplace in many parts of the Canadian Arctic Archipelago – a vast wilderness home to a quarter of the estimated global population of 20,000 polar bears – according to research led by [Stephen Hamilton](#) from the University of Alberta, Canada.

Without much of a new generation coming through to replace older bears, extinction of the species would seem certain – but putting a date on when that is likely to be is hard without knowing exactly how many bears are out there.

Hamilton's study is the major one to model when ice loss across the archipelago will make places unable to support polar bears. It also found that older animals are likely to be dying in large numbers by the end of the century.

Nowhere to run

"This paints a very depressing picture of the area that we thought would give bears the best hope of survival in the long term," says [Andrew Derocher](#) of the University of Alberta, a member of the research team.

Most of the current habitat will already be long gone leaving the species with nowhere left to

run, he says.

Polar bears need sea ice because they hunt their main food – fat-rich seals – exclusively from the surface of the ice. If ice-free periods are too long, bears cannot build the energy reserves they need to see out the lean months. And fairly uncontroversial maths puts this time limit at around six months.

Up to one in five adult males and much higher numbers of young and old bears will starve every year in these conditions, which, Hamilton's study finds, are set to become routine in the archipelago by 2100. The lack of food and shelter for pregnant females will see them failing to keep between 55 and 100 per cent of their cubs alive.

Critical threshold

How reliable are these predictions? Nowhere in the Arctic has yet hit this critical threshold so it is hard to know for sure. A few areas have come close, though, and the high death rates among youngsters and adults in these cases give Derocher little reason to believe he will turn out to be wrong.

For instance, [40 per cent of bears in the south Beaufort Sea were lost between 2001 and 2010](#), and their numbers in west Hudson Bay have [dropped by a fifth](#) in less than two decades.

Even so, certain communities seem to be bucking this trend despite their melting habitat.

[Steven Amstrup](#) of [Polar Bears International](#) conservation group with offices in US and Canada, thinks that the hardiness of adults combined with thinner, annual ice sheets that are better for hunting than multi-year ice is temporarily providing better hunting grounds that may be keeping overall global numbers relatively stable in spite of the younger generation collapsing.

This should not however sow any doubts as to eventual extinction of the world's largest land predator if global warming continues unabated, he says.

If the ice does disappear as forecasted the bears would be doomed, agrees [Jeffery Bromaghin](#) of the US Geological Survey in Anchorage, Alaska.

But he says the species may still have a future if mitigation efforts are taken seriously because there are still enough bears to ensure a smaller but healthy group in the future. "There is certainly no imminent danger of extinction," he says.

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