

Climate change forecast: Sea levels could rise by 1M if CO2 emissions are not cut by 2100

CLIMATE change threatens to raise sea levels by 4.2ft (1.3m) by 2100 if greenhouse emissions are not drastically cut, researchers from Singapore have warned.

By **SEBASTIAN KETTLEY**
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An international **climate change** study led by Nanyang Technological University in Singapore has found unchecked **global warming** threatens significant sea-level rise in the next 280 years. Even if global warming is limited to 2C degrees above pre-industrial levels, scientists estimate the seas could still rise by 1.6ft (0.5) by 2100.

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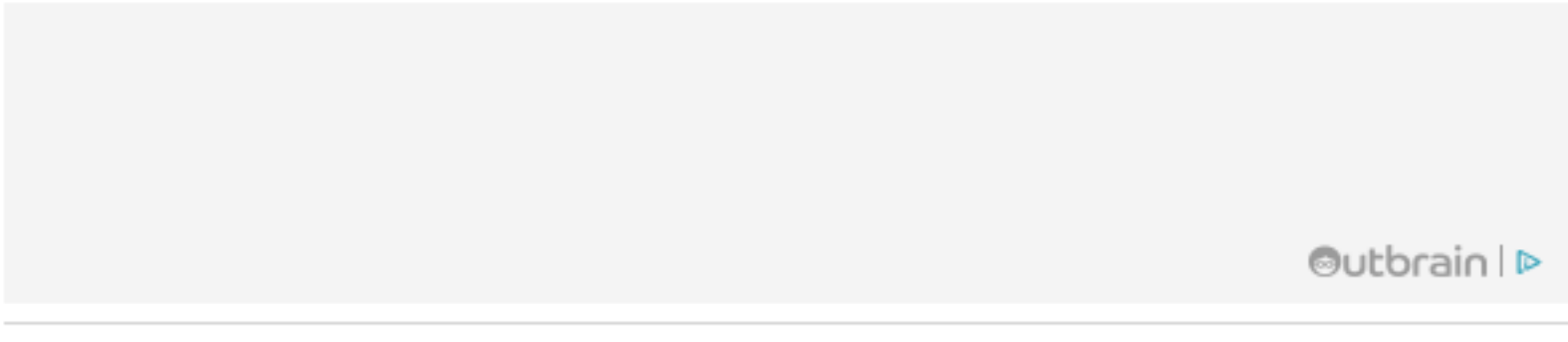
In a worst-case scenario, the scientists estimate continued high emissions will contribute to about 4.5C.

If this happens, the seas could rise by 1.9ft to 4.2ft (0.6m to 1.3m) by 2100 and 5.5ft to 18.3ft (1.7m to 5.6m) by 2300.

However, if emissions are limited and global warming is kept within 2C, the experts estimate about 1.6ft (0.5m) of sea-level rise by 2100 and 1.6ft to 6.5ft (0.5m to 2m) by 2300.

The results are based on projections from more 106 international experts in the field.

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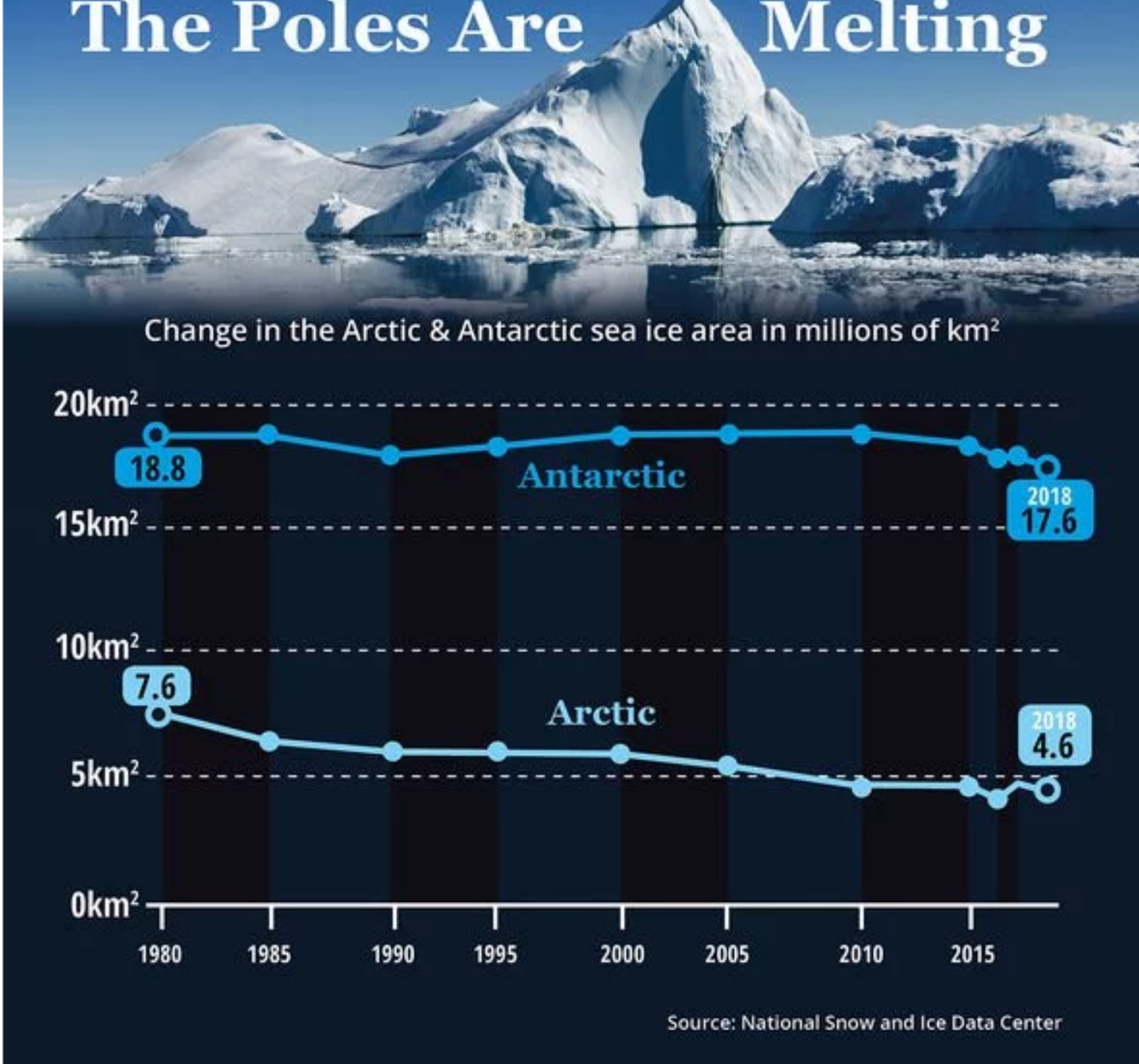


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Climate change: Experts estimate rising sea-levels can be contained if emissions are cut (Image: GETTY)



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According to Professor Benjamin Horton, who led the study, forecasts are vital if governments are to prepare for the fallout from climate change.

He said: "The complexity of sea-level projections, and the sheer amount of relevant scientific publications, make it difficult for policymakers to get an overview of the state of the science.

"To obtain this overview, it is useful to survey leading experts on the expected sea-level rise, which provides a broader picture of future scenarios and informs policymakers so they can prepare necessary measures."

The study's findings were published in the journal **Climate and Atmospheric Sciences** on May 8.

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The projections exceed past estimates published by the United Nations' Intergovernmental Panel on Climate Change (IPCC).

Study co-author Dr Andra Garner, Professor of Environmental Science at Rowan University in the US, said: "We know that the planet will see additional sea-level rise in the future.

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"But there are stark differences in the amount of sea-level rise experts project for low emissions compared to high emissions.

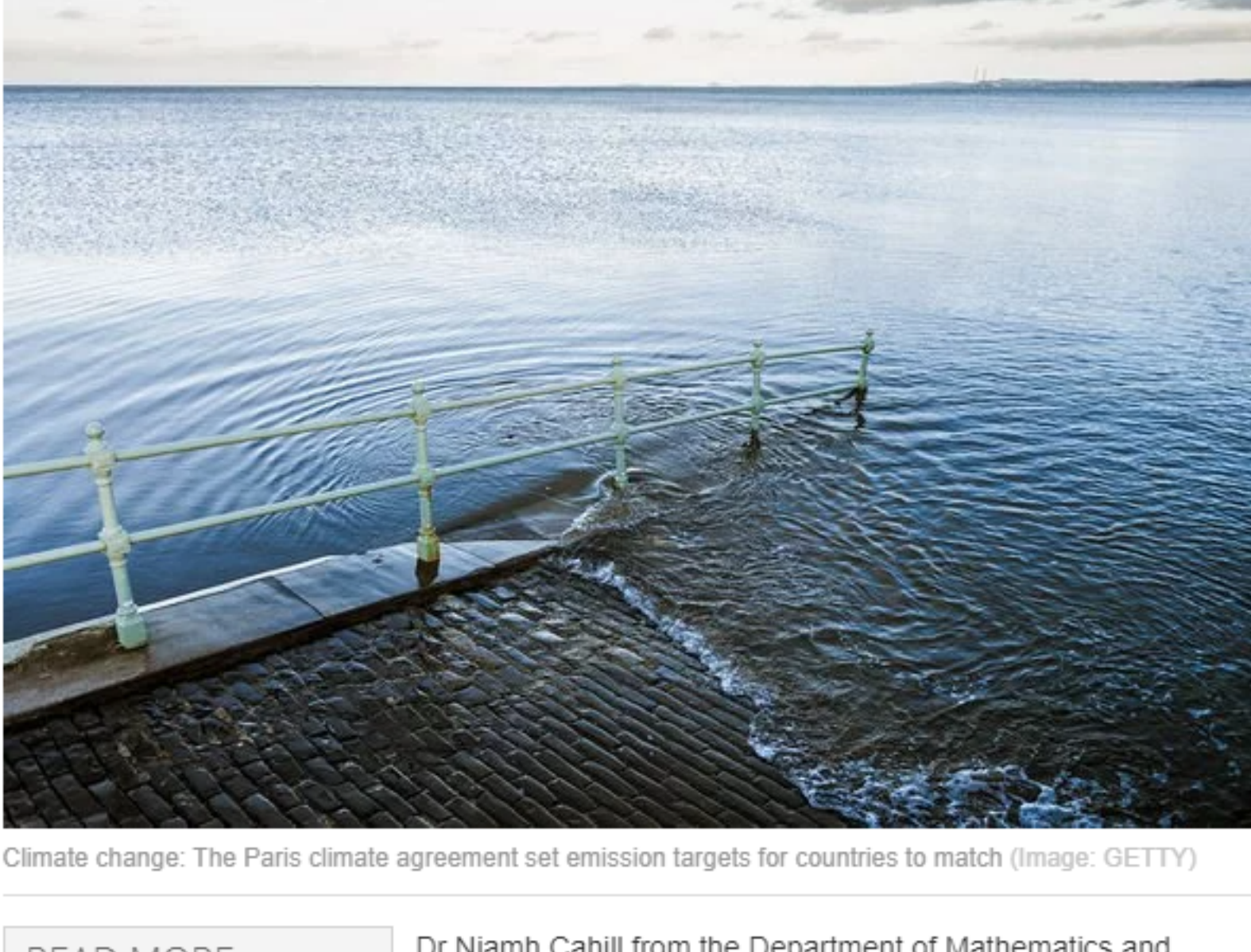
"This provides a great deal of hope for the future, as well as a strong motivation to act now to avoid the more severe impacts of rising sea levels."

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Dr Niamh Cahill from the Department of Mathematics and Statistics at Maynooth University in Ireland said: "This international study is based on the informed opinions of 106 sea-level experts and underlines the critical importance of pursuing a low emissions policy to limit sea-level rise."

The 106 experts who were surveyed for the study, were chosen for being active in the field.

The scientists have all submitted at least six peer-reviewed journals since 2014.

The scientists have all identified the Greenland and Antarctic Ice Sheets as the greatest source of uncertainty.

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The ice sheets are a critical focal point for scientists as they contribute greatly to sea-level rise.

Satellite-based observations show the ice sheets are melting at accelerating rates.

Dr Andrea Dutton, Professor in the Department of Geoscience at the University of Wisconsin-Madison, US, said: "One of the key take-aways from this study is that our actions today can make a profound difference in how much our coastlines will retreat in the future.

"That knowledge is empowering because it means that we can choose a better outcome through our actions."