

Antarctic sea ice increases despite warming

The amount of sea ice around Antarctica has grown in recent Septembers in what could be an unusual side-effect of global warming, experts say.

In the southern hemisphere winter, when emperor penguins huddle together against the biting cold, ice on the sea around Antarctica has been increasing since the late 1970s, perhaps because climate change means shifts in winds, sea currents or snowfall.

At the other end of the planet, Arctic sea ice is now close to matching a September, 2007 record low at the tail end of the northern summer, in a threat to the hunting lifestyles of indigenous peoples and creatures such as polar bears.

“The Antarctic wintertime ice extent increased....at a rate of 0.6% per decade” from 1979 to 2006, says Donald Cavalieri, a senior research scientist at the NASA Goddard Space Flight Center in Maryland.

At 19 million square kilometers, it is still slightly below records from the early 1970s of 20 million, he says. Since 1979 however, the average year-round ice extent has risen too.

Sceptics' delight

Some climate skeptics point to the differing trends at the poles as a sign that worries about climate change are exaggerated, but experts say they can explain the development.

“What’s happening is not unexpected....Climate modelers predicted a long time ago that the Arctic would warm fastest and the Antarctic would be stable for a long time,” says Ted Maksym, a sea ice specialist at the British Antarctic Survey.

The UN Climate Panel says it is at least 90% sure that people are stoking global warming – mainly by burning fossil fuels. But it says each region will react differently.

A key difference is that Arctic ice floats on an ocean and is warmed by shifting currents and winds from the south. By contrast, Antarctica is an isolated continent bigger than the US that creates its own deep freeze.

“The air temperature in Antarctica has increased very little compared to the Arctic,” says Ola Johannessen, director of the Nansen Environmental and Remote Sensing Center in Bergen, Norway. “The reason is you have a huge ocean surrounding the land.” Cavalieri says some computer models indicate a reduction in the amount of heat coming up from the ocean around Antarctica as one possible explanation for growing ice.

Hot air

Another theory was that warmer air absorbs more moisture and means more snow and rainfall, he says. That could mean more fresh water at the sea surface around Antarctica – fresh water freezes at a higher temperature than salt water.

“There has been a strengthening of the winds that circumnavigate the Antarctica,” says Maksym. That might be linked to a thinning of the ozone layer high above the continent, blamed in turn on human use of chemicals used in refrigerants. In some places, stronger winds might blow ice out to sea to areas where ice would not naturally form. Maksym predicted that global warming would eventually warm the southern oceans, and shrink the sea ice around Antarctica. “A lot of the modelers are predicting the turning point to be right about this time”, he says.

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