

By Stefan Zuber, Science Editor

[Global Warming Could Wipe Out Antarctic Penguins in 10 Years](#)

Adelie penguins in danger

In the North Pole, the first major victim of the global warming seems to be the polar bear. In Antarctica, the victims could be the Adélie penguins. Their ice-made home is melting, and while the southernmost populations are thriving, most are quickly plummeting. These penguins need the winter sea ice as a platform for launching on hunting ocean krill, while in the summer, ice must be gone so that they can breed in large ground colonies. This is one of the three species of penguins endemic to Antarctica (the other two species are the emperor penguin and the chinstrap penguin). The mid Antarctic Peninsula was once the heaven of Adélie penguins, one of the smallest species, with a weight of 8.5 to 12 pounds (4 to 5.5 kg). Now, it is not the case. "That region has experienced the most rapid warming during winter on the planet. The mid-winter temperatures are now around 10.8 degrees Fahrenheit [6 degrees Celsius] higher than they were 50 years ago", Bill Fraser, an ecologist with the Polar Oceans Research Group in Sheridan, Montana, told National Geographic News. This means that Adélie penguins may be gone in this area in 5 to 10 years. Since 1974, the number of Adélie penguins from the western Antarctic Peninsula has dropped by 80 %, from 20,000 couples to 4,000. "They are the classic canaries in the coal mine, in that they are responding to changes that are occurring on an enormous scale. These are global scale changes; it's just not the [Antarctic] peninsula that's warming", said Fraser. But some people warn that the peninsula experiences an accelerated warming connected to factors unique to the area. "The peninsula is undergoing warming that in the wintertime is almost 5.5 times the global average. [There's] got to be some other source of heat that's melting the glaciers and raising the air temperature, and the most obvious source is the ocean", Doug Martinson, a physical oceanographer at Columbia University's Lamont-Doherty Earth Observatory in Palisades, New York, told National Geographic News. Ocean water transports more heat than air, carrying the warmth from equatorial areas through deep ocean currents to the South Pole, where it warms the Antarctic circumpolar current. Some of the water of the Antarctic current goes to the surface, heating the atmosphere. "The deep-ocean circulation is bringing water to our area of the Antarctic Peninsula that-just a little ways below the water's surface-is four degrees Celsius [seven degrees Fahrenheit] warmer than freezing. It's a freight train of hot coals that goes steaming by this frigid area. The summer season with no sea ice is now 85 days longer than it used to be just since the '80s. It almost doubles the length of summer down there as far as sea ice goes", said Martinson. But while the Antarctic Peninsula is getting warmer, more southern Antarctic shores experience an increased Adélie population. "Adélie populations in the far southern peninsula have tripled in previous decades", said Fraser. Meanwhile, ice-intolerant penguin species are occupying the place deserted by the Adélie penguins: since 1974, the gentoo penguin population has boomed by 7.5 times, and chinstraps by 2.7 times. But, too much global warming could wipe out even the southernmost refuges of the Adélie penguins. "To see them being affected so dramatically by [human-induced] climate change, it's particularly hard to bear", said Fraser.