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Global Warming Boosting Reindeer on Norwegian Island—For Now

Posted by [Stefan Sirucek](#) in [Weird & Wild](#) on July 19, 2014

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On the remote [Norwegian archipelago of Svalbard \(map\)](#), [reindeer](#) are bucking the [trend followed by other animals affected by global warming](#): The population of reindeer is [growing—even thriving—according to new research](#).

The findings are the latest in a 30-year population study that's focused on counting reindeer in the valley of Adventdalen on the island of Spitsbergen.



Three Svalbard reindeer (*Rangifer tarandus platyrhynchus*) graze in Spitsbergen in March 2009. Photograph by Wild Wonders of Europe/Luedden/Nature Picture Library, Corbis

In the Arctic, including Svalbard, there's been a well-documented increase in temperature over the past 20 years—and the main effect on the reindeer appears to be that their populations are increasing, said [Jonathan Codd](#) of the U.K.'s University of Manchester, whose team assisted in the annual reindeer census.

The largest recorded population increase yet—a striking 30 percent—occurred in 2014, with 1,300 reindeer recorded in Adventdalen. Three hundred of them were new calves, according to the findings, released by the University of Manchester this week.

While it's difficult to rule out other factors that could account for the growth, Codd said that climatic changes can definitely influence animal populations. (See "[Ten U.S. Species Feeling Global Warming's Heat](#).")

For example, the plants that reindeer eat during the relatively short Arctic summer are available for longer periods as the region warms.

"Having better food resources means the reindeer are in better condition and therefore more able to cope with the Arctic winter," explained Codd.

Not All Good News

Svalbard reindeer, a subspecies named *Rangifer tarandus platyrhynchus*, have a number of adaptations that allow them to better survive harsh temperatures, including short legs and an especially thick layer of winter fat. (Related: ["Reindeer Change Their Eyes for Summer and Winter."](#))

That especially comes in handy in the Arctic, which is "incredibly variable," said Codd—winter temperatures often fluctuate between 23 and -13 degrees Fahrenheit (-5 and -25 degrees Celsius). While these features may seem uniquely geared toward cold weather, Codd said reindeer are actually very adaptable to many changes in weather and food availability.

While Svalbard's reindeer population is growing, milder winters could also hurt reindeer populations in several ways, noted [Perry Barboza](#), a biologist at the University of Alaska, Fairbanks, who was not involved in the study.

For example, milder temperatures actually lead to heavier snowfalls, since warmer air can hold more moisture. Deeper snow can make it difficult for animals to access food. (See ["Mysterious Rain on Snow Events Tracked in Arctic."](#))

Conversely, snow thaw followed by a refreeze can have the same effect, and can cause the animals to starve.

"So the warming effects on Svalbard are that possibly you'll get deeper snow or ice events, and both of these result in more difficulty in getting to your food and making a living," said Barboza.

Valuable Data

Barboza also stressed that reindeer populations often undergo boom-and-bust cycles for reasons that can be difficult to pin down, making such long-term studies important.

The Svalbard study is also notable in that it focused on a specific group over a long period, he added. (Watch: ["Walking With Reindeer."](#))

The researchers also tagged and counted individual reindeer, whereas most population studies rely on models, which tend to be less accurate.

"These are rare sorts of data sets, and they're becoming more and more valuable."

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Weird & Wild Contributors

- [Christine Dell'Amore](#) (Editor)
- [Carrie Arnold](#)
- [Mary Bates](#)
- [Mollie Bloudoff-Indelicato](#)
- [Danielle Elliot](#)
- [Jennifer S. Holland](#)
- [James Owen](#)
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