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## Trumpeter Swans Rebound, with an Assist from Global Warming

Hunted to near extinction, the swan is taking advantage of warmer, longer summers to expand its range and numbers

By Jane Kay, Daily Climate and The Daily Climate | January 18, 2012 | 48

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As the climate grows drier and warmer - melting glaciers, thawing permafrost and shrinking wetlands in the Northern Hemisphere - Schmidt and other scientists warn that there are many long-term factors that may be harmful to wildlife species, including the trumpeter swans. Changes in breeding cycles may bring a mismatch between food need and availability, for instance. But for now, they believe the benefits outweigh the downsides of losing some wetlands at lower latitudes.

Negative effects abound for other Arctic and sub-Arctic creatures. The smaller tundra swan, with a breeding range that slightly overlaps the trumpeter's in the Koyukuk and Yukon river basins of northwest interior Alaska, may be feeling pinched by a more robust trumpeter population. Researchers also foresee serious consequences for the polar bear, the walrus, the ice seals and many other Arctic species that depend on sea ice to survive.

"Every species is immensely complicated because each species affects and is affected by so many other species, and because climate affects each species in different ways," said Nancy Fresco, network coordinator for a climate research group at the University of Alaska. [Water](#), temperature, pests, diseases and invasive species are some of the factors, she said. Scientists are trying to more broadly assess the health of ecosystems rather than zero in on the health of individual species.

This fall, the first snow came to Potter Marsh on the Cook Inlet in September - typical for the region. As October rolled along, daylight shortened, temperatures lowered, leaves fell and flocks of migrating ducks and shorebirds called overhead, all

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age-old signals to swans that it was time to leave. The swans must be on their way by October's end, before the freshwater ponds they need freeze up. In 1992, an early cold spell in interior Alaska's Minto Flats, west of Fairbanks, trapped several young trumpeters that weren't yet ready to make the flight. They froze in the ponds.

This year Alaska is seeing a colder-than-average winter. But the trend is the opposite: The average length of the snow-free season was 154 days between 1910 and 1940 in most of Alaska and northern Canada, according to a 2007 study by University of Alaska, Fairbanks, scientists and published in the journal *Global Change Biology*. Between 1970 and 2000, the region saw an annual average of 157 days free of snow, the study said. The snow-free period increased by 1.6 days per decade between 1910 and 1940, and by 2.2 days per decade from 1970 to 2000.

"Alaska is warming about twice as fast as the global average. Snow melts earlier, the sea ice melts earlier. It changes the amount of heat that is absorbed by the land and ocean surface. A dark surface absorbs more energy, and therefore magnifies that rate at which temperatures rise," said Stuart "Terry" Chapin III, a professor emeritus in the Institute of Arctic Biology at the University of Alaska, Fairbanks, and an author of the 2007 study.

"From a swan's perspective," Chapin added, "it means a longer growing season, a somewhat warmer growing season. It means greater productivity, more food for the swans."

*This article originally appeared at [The Daily Climate](#), the climate change news source published by Environmental Health Sciences, a nonprofit media company.*

#### ABOUT THE AUTHOR(S)

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