

# The poop on finding penguins: Follow the guano

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Emperor penguins with chicks. Photo: Cal Young

(AP) -- Scientists looking for lost penguins stumbled upon an effective method: Follow their poop from space.

In remote Antarctica, about one-and-a-half times bigger than the United States, researchers have been unable to figure out just where colonies of emperor penguins live and if their population is in peril.

It's harder still because emperor penguins, featured in the film "March of the Penguins," breed on sea ice, which scientists say will shrink significantly in the future because of [global warming](#). Because the large penguins stay on the same ice for months, their poop stains make them stand out from space.

Scientists at the British Antarctic Survey found this out by accident when they were looking at [satellite images](#) of their bases. A reddish-brown streak on the colorless ice was right where they knew a colony was, said survey mapping scientist Peter Fretwell.

The stain was penguin poo - particularly smelly stuff - and it gave researchers an idea to search for brown stains to find penguins. They found the same telltale trail, usually dark enough to spot from space, all over the continent, said Fretwell by telephone from England.

Using [satellite data](#), the scientists found 10 new colonies of penguins, six colonies that had moved from previously mapped positions to new spots and another six that seemed to have disappeared. Overall, 38 colonies were spotted from above, according to Fretwell's paper, "[Penguins](#) From Space" in the journal *Global Ecology and Biogeography*.

"It's a very important result scientifically, even though it's a lighthearted method," Fretwell said Monday.

Even though Antarctic [sea ice](#) hasn't melted so far, scientists predict it to shrink by one-third by the end of the century, potentially threatening the birds, Fretwell said.

The research is "incredibly useful," because the only time to see emperors are during breeding in winter when [weather](#) makes it nearly impossible to get to the colonies, said longtime penguin researcher William Fraser, who wasn't involved in the study. Fraser noted that salty penguin guano "over time will corrode your boots," adding that he has lost nearly a dozen pairs to poop in 35 years of penguin research.

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On the Net:

British Antarctic Survey: <http://www.antarctica.ac.uk/>

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