

<http://www.npr.org/templates/story/story.php?storyId=89239211>

Penguins Helped and Hurt by Changing Climate

by Daniel Zwerdling

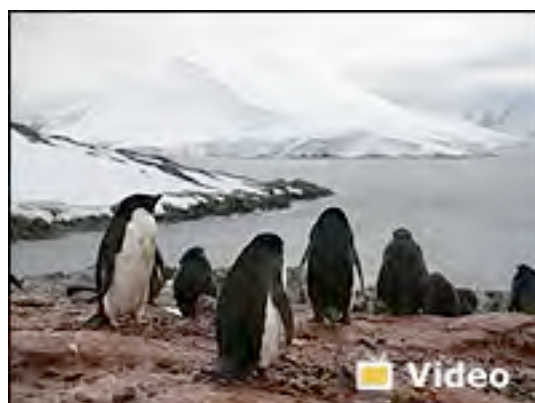
All Things Considered, March 31, 2008 · We take off by helicopter from America's main research base in Antarctica toward Cape Royds, where exactly 100 years ago, in 1908, scientists started studying the local penguin colony. It takes only 20 minutes to get there, but it's one of the most spectacular trips of my life. The Earth is blinding white in every direction. We pass a white wall of mountains off to the left and, on the right, an active volcano with steam curling out of the vent.



Peter Breslow, NPR

The easiest way to get to Cape Royds, on an island off the coast of Antarctica, is by helicopter.

Then the helicopter drops us in a small clearing. We climb a snowy ridge, and there at the top are thousands of noisy penguins. They're crowded together on a mound of black volcanic rock, and they're squawking and cooing their hearts out.



These penguins are called Adelies. They look like emperors, which were showcased in the hit movie *March of the Penguins*. Only Adelies aren't as big — they barely come up to my thighs. Most are milling around; some are flopped on their stomachs on nests which they make out of stones. There are fuzzy chicks that look like toys.

Our guide is David Ainley, one of the most respected penguin researchers in the world. He says he loves studying Adelie penguins, partly because they're so out there. Literally.

"There's no bushes here; they don't dig burrows. They just sit out here in full view and they don't really care if we're around. They have no secrets," Ainley says.



It's surprising to hear him talk this way, because researchers don't usually ascribe human emotions to animals. But when Ainley talks about these penguins, it sounds like he's talking about friends.

"Penguins have no self-doubt," Ainley says, adding sheepishly: "Which I have lots of, for myself."

Ainley has a thick white mane and a white mustache which spreads across his rugged face. He seems more comfortable with penguins than people. He's been studying penguins over the past 40 years, and he says he's still amazed what Adelies can do. As we're chatting, penguins are filing past us like a line of wind-up dolls. They're heading to the sea, a couple hundred yards away, and they're leaping in, headfirst.

"They are good examples of how we all should live. They're the epitome of the word dauntless," Ainley says.

These Adelies dive up to 400 feet, dodging giant ice floes the size of cars which bash around in the surf. Some of the penguins are already coming back, shooting straight out of the water like a circus trick. Ainley says they can leap nine or ten feet, popping out of the water like corks.



Galen Rowell

Penguins at Cape Royds have been studied for 100 years. *Corbis*

Finding Answers

Scientists say penguins are providing some of the first clues of how global warming is changing the planet. And Ainley has come up with evidence by asking very basic questions: Is this penguin colony growing or shrinking? Are the penguins finding plenty of fish to eat or are they hungry? To get the answers, Ainley arms himself with a syringe loaded with tiny computer identification chips. Then he and his colleagues grab a penguin and hoist it like a squirming dog.

"We put them under our arm and hold them tightly. They're extremely strong. They're very aggressive, and they're very territorial," Ainley says. "And they definitely aren't used to being touched ... They don't even want to be touched by another penguin."

Still, the researchers inject a chip in every angry penguin's shoulder. Then they take a computerized scale, which looks like a rubber mat, and they place it on the path so the penguins cross it. This system lets Ainley track all kinds of information. For instance, what time does each penguin go fishing and when does it come back? How much weight does the penguin gain or lose?

An Unpredictable Future

Scientists have been doing similar studies in other parts of Antarctica. They've plotted their findings against the climate. The results are striking. During the past few decades, as climate patterns in some parts of the continent have changed dramatically, Adelies in some regions have almost disappeared. Their numbers have plunged 80 percent. But the Adelies where Ainley does his research are doing better than ever.

"These penguins are definitely being helped by climate change," Ainley says.

Ainley and other researchers think they know why. Most types of penguins go fishing only in open water, so they're all competing with each other to find food. But Adelies catch their fish by diving deep under the ice. In fact, they're just about the only penguin that can physically do that. So, when there's plenty of ice over the sea, Adelies hardly have any competition and they can get all the food they want.

Now the changing climate is shaking things up. In some areas where most of the ice has melted, Adelies can't survive. But Cape Royds used to have too much ice, and now it has just the right amount. So penguins here are doing great.

Ainley says here's the moral: Global warming is making life unpredictable. Early this year, he was studying another penguin colony, and a glacier was melting.

"There were huge rivers running off this glacier, running through the penguin colony, and the rivers were engulfing these penguin nests. And the penguins just kept collecting rocks to try to make their nests bigger, raise them up out of the water. And for many of them, they couldn't collect rocks fast enough. And so their eggs were just washed away," Ainley says.



Currently, Adeline penguins at Cape Royds are doing well — the melting ice has even made life better for them. But researchers are keeping a close watch, knowing that climate change is making their future unpredictable.

AP Photo/Australian Antarctic Division

"I thought it was really unfair, that humans a long way away were oblivious to what they're doing to the Earth, to these penguins' home," he adds, looking over his shoulder at the Adelies waddling by.

Ainley's radio crackles, and we get word that our helicopter is arriving soon. We make our way toward the landing site. But Ainley will return soon — he's coming back to Cape Royds next season, to kick off another hundred years of learning from the penguins.

Produced by Peter Breslow