Penguins suffering from climate change, scientists say

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Heatwaves killing Magellanic penguin chicks in Argentina, and Adelie penguins in Antarctica are finding it harder to feed

Photo: Adelie penguins on Ross Island, Antarctica, are finding it harder to feed as melting sea ice fragments to form giant icebergs. Photograph: David Gremillet/University of Wa/PA

Penguins are in peril because of extreme environmental conditions linked to climate change, research has shown.

Two new studies highlight the plight of penguin colonies trying to cope with the effects of global warming in Argentina and Antarctica. At both locations, the beguiling birds face an uncertain future.

Climate change is killing chicks from the world's biggest colony of Magellanic penguins at Punta Tombo, Argentina, by increasing the rate of drenching rainstorms and heatwaves, say scientists.

Meanwhile Adelie penguins on Ross Island, Antarctica, are finding it harder to feed as melting sea ice fragments to form giant icebergs.

Protected only by a downy coat, the Magellanic chicks can be left to struggle and die when rainstorms hit their colony. At other times, faced with extreme heat, their lack of waterproofing means they cannot cool off by taking a dip.

Dr Ginger Rebstock, from the University of Washington, US, who took part in a 27 year-long study of the 400,000-strong Argentinian colony, said: "We're going to see years where almost no chicks survive if climate change makes storms bigger and more frequent during vulnerable times of the breeding season, as climatologists predict."

Photo: A Magellanic penguin interacts with its newborn chicks at the Punta Tombo fauna reservation in the Patagonian Argentine province of Chubut. Photograph: STRINGER/ARGENTINA/REUTERS

During the course of the study, an average 65% of chicks died each year, with some 40% starving. Climate change was blamed for an average 7% of chick deaths, but in some years was the most common cause of death. In one year, 43% of all chick deaths were attributed to climate change and in another 50%.

Starvation and the weather were likely to interact increasingly as the climate changed, according to the researchers. "Starving chicks are more likely to die in a storm," said Professor Dee Boersma, also from the University of Washington, who led the study.

At Ross Island, scientists spent 13 years collecting data on the foraging ability of chick-rearing Adelie

penguins, which are dependent on year-round sea ice. They found that under "normal" conditions they were able to cope with changes in sea ice concentrations.

But the appearance of giant icebergs reduced their chances of catching fish prey. How well they would be able to survive if such conditions became more common was unknown.

"If the frequency of such extreme events increases, then it will become very hard to predict how penguin populations will buffer future sea ice changes," said lead researcher Dr Amelie Lescroel, from the Centre d'Ecologie Fontionnelle et Evolutive in France.

Both studies appear in the latest edition of the online journal Public Library of Science ONE.

150,000 penguins die after giant iceberg renders colony landlocked

The Guardian 13 Feb 2016 By Bonnie Malkin
http://www.theguardian.com/world/2016/feb/13/150000-penguins-killed-after-giant-iceberg-renders-colony-landlocked

Penguins of Cape Denison in Antarctica effectively trapped by iceberg the size of Rome and face 120km round trip to feed

An estimated 150,000 Adelie penguins living in Antarctica have died after an iceberg the size of Rome became grounded near their colony, forcing them to trek 60km to the sea for food.

The penguins of Cape Denison in Commonwealth Bay used to live close to a large body of open water. However, in 2010 a colossal iceberg measuring 2,900 square kilometres became trapped in the bay, rendering the colony effectively landlocked.

Penguins seeking food must now waddle 60km to the coast to fish. Over the years, the arduous journey has had a devastating effect on the size of the colony.

Since 2011 the colony of 160,000 penguins has shrunk to just 10,000, according to research carried out by the Climate Change Research Centre at Australia's University of New South Wales. Scientists predict the colony will be gone in 20 years unless the sea ice breaks up or the giant iceberg, dubbed B09B, is dislodged.

Penguins have been recorded in the area for more than 100 years. But the outlook for the penguins remaining at Cape Denison is dire.

"The arrival of iceberg B09B in Commonwealth Bay, East Antarctica, and subsequent fast ice expansion has dramatically increased the distance Adélie penguins breeding at Cape Denison must travel in search of food," said the researchers in an article in Antarctic Science.

"The Cape Denison population could be extirpated within 20 years unless B09B relocates or the now perennial fast ice within the bay breaks out"

"This has provided a natural experiment to investigate the impact of iceberg stranding events and sea ice expansion along the East Antarctic coast."

In contrast, a colony located just 8km from the coast of Commonwealth Bay is thriving, the researchers said.

The iceberg had apparently been floating close to the coast for 20 years before crashing into a glacier and becoming stuck.