

Polar bears' declining mercury levels likely due to climate-related shifts

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To understand how human activities are affecting the planet, scientists often study the health of animals in the wild. Now a new study, appearing in ACS' journal *Environmental Science & Technology*, finds that the levels of mercury in some polar bears are declining. But rather than heralding a drop in mercury in the environment, the decrease could indicate how climate change has led the animals to shift foraging habits, which has affected their diets and weight.

Previous studies have shown that mercury in the environment, either naturally occurring or added by industrial activities such as coal burning, has accumulated in tissue and [hair samples](#) of the southern Beaufort Sea polar bear at levels associated with harmful health effects. They get exposed through their diets, which include seals and whales. But past research has shown that as seasonal sea ice has declined, the animals' diets have shifted. Melissa A. McKinney and colleagues wanted to investigate how this might affect the polar bears' mercury levels.

The researchers took hair samples from southern Beaufort Sea polar bears between 2004 and 2011 and analyzed them for [mercury concentration](#). Testing showed that the levels declined among adults during this period by about 13 percent per year. After considering the animals' body-mass indices (BMI) and food sources, which were determined in a previous study, the investigation found that the drop in mercury could be attributed to a change in the polar bears' diet and their increasing BMI. The researchers say that [polar bears](#) likely consume less [mercury](#) from bowhead whales and bearded seals, which they eat more

of as sea ice diminishes, than they would get from ringed seals.

Provided by American Chemical Society

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