

EPISODE 2: *THE ONE DEGREE FACTOR*

Premiering Wednesday, April 20, 2005 at 10pm (check local listing)

From the Arctic north to the tropical isles of the Caribbean, scientists are documenting a series of perplexing phenomena many believe is linked to climate change.

As heat accumulates in the global climate system, places such as Alaska and the northwest corner of Canada are getting more than their share. The average temperature has increased in some places here by as much as 11 degrees Fahrenheit. Emerging signs indicate that the region's rising temperature is affecting the indigenous porcupine caribou in ways both subtle and potentially severe.

For decades, researchers have been tracking the rise and fall of the porcupine caribou population. While their numbers have varied over the years, recent declines have caused some to question whether global climate change will impact the herd's long-term survival. Can they adapt and thrive in a warmer world?

Longer summers in the region may mean a larger mosquito population, and these tiny tormenters feed on the caribou. To escape, the caribou seek out the cooler temperatures atop mountains and ridges, away from their traditional feeding grounds. The life of a caribou is a trade-off between time spent evading insects and time spent feeding or resting. The more time spent evading insects, the more energy expended and the less energy taken in by way of feeding. Researchers suggest this may weaken adult caribou considerably, resulting in lower reproduction rates.

Across the world, other events that some scientists link to climate change are unfolding. In Central Africa, Lake Chad has been shrinking into a bed of dust over the past decades. No one is sure if the lake's disappearance is due to climate change, but one thing is certain, this dust is swept into the air, where it is blown toward the Americas, thousands of miles away. In Trinidad, African dust is now a prime suspect in the increased rates of childhood asthma. At the same time, in the U.S. Virgin Islands, scientists are examining possible connections between airborne dust and sea fan disease.

These are but a few of the puzzling events that lead some scientists to believe life on Earth may be pushed to extremes by rising global temperatures.

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