



# Are you the predator or the prey in the perilous world of climate change?

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DATE RECEIVED:

October 05, 2016

DOI:

10.15200/winn.147566.62471

ARCHIVED:

October 05, 2016

KEYWORDS:

climate change, finance, data, weather conditions, climate variability, Spinifex hopping mice

CITATION:

Laura Hershey, Are you the predator or the prey in the perilous world of climate change?, *The Winnower* 3:e147566.62471, 2016, DOI: 10.15200/winn.147566.62471

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Effects of climate change mean unexpected new winners, and losers, in finance.



In a shocking twist that is baffling scientists, the cat is not only getting the mice, but the catfish is too. Whilst the hunt of mice by cats has become an idiom for the constant pursuit of one's prey, it was hardly to be expected that this cartoonish relationship would one day extend to catfish too. Yet, in an article recently published by the scientific journal "Journal of Arid Environments", Australian researchers have the grisly evidence, having discovered the bodies of **Notomys alexis**, or Spinifex hopping mice, in the stomachs of almost half of the lesser salmon cat-fish sampled in the Ashburton River of Northwest Australia.

Whilst previous studies have already found catfish that occasionally eat mammals, such practices were extremely rare (about 4%), presumably from small animals that have fallen into water. Astonishingly, for the first time, they have discovered 44% of cat fish sampled have fed on mice, and of those, the majority fed almost exclusively on these small rodents (comprising 95% of their stomach content).

But just exactly how are catfish able to entrap the unfortunate 4-legged landlubbers in the first place?

Notomys alexis are better than most mammals at avoiding waters due to their springy hind legs and tails. At the same time, whilst catfish are omnivores and happy to eat whatever they can find, they not only can't walk, but aren't even hunters, generally naturally content to eat only what they come across (being what we disparagingly refer to as "bottom feeders").

To explain their discovery, the researchers have postulated two theories. First, it may be that these catfish have out of necessity adapted to changes in their environment in order to survive, learning to beach themselves and attack the mice that inadvertently cross their paths. An earlier study of a different variety of catfish had discovered those that had managed to do this in order to attack pigeons.

Alternatively, unexpected adverse weather conditions at the time of this study last summer may have contributed towards the surprising results. In July 2015, when their catfish study was conducted, Australia was hit by uncharacteristic torrential rains that would have destroyed the natural habitats of the hopping mice, in particular their deep underground burrows, pushing the mice into the river and the perpetually open jaws of the delighted catfish therein.

Unfortunately for our small snouted friend, things are only expected to get worse. Climate projections for northern Australia suggest that the area is set to experience longer droughts and more dramatic periods of flooding in coming years, meaning even more hopping mice may be made available as prey to the catfish for longer and more frequent periods. This, in turn, will mean more river ecosystems and a greater degree of biodiversity in the region will be thrown out of balance and threatened in coming years.

But the cat has not only got the mouse... Your business is next! In the last twenty years, the frequency and intensity of weather anomalies has doubled. Today, weather is a massive factor in every company's risk outlook, and this situation will only worsen. However, unlike the catfish, which is either adapting or spontaneously profiting to the effects of climate change, the majority of businesses today are in the dark as to their exact weather risk exposure, and insured only against the most high impact but low occurrence events such as natural catastrophes. For the day-to-day ongoing risks of climate variability, including reduced sales and increased operating or sourcing costs, these remain unanalysed, unmitigated and uninsured.

Fortunately, thanks to advances in data processing, modelling and forecasting, risk managers can now accurately determine the exact impact of climate change on their businesses (including minimum, average and maximum potential losses that may be accrued), how much of their weather risks they wish to mitigate with financial hedging solutions, and what adaptation measures they will take to build resilience to climate variability. For surely, it's time to stop burrowing underground like helpless rodents, and turn to the experts in weather risk management to assess and respond to climate change.