

# Tropical zone expanding due to climate change: study

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Steam billows from the cooling towers at Exelon's nuclear power generating station in Byron, Illinois, in 2006. Climate change is rapidly expanding the size of the world's tropical zone, threatening to bring disease and drought to heavily populated areas, an Australian study has found.

Climate change is rapidly expanding the size of the world's tropical zone, threatening to bring disease and drought to heavily populated areas, an Australian study has found.

Researchers at James Cook University concluded the tropics had widened by up to 500 kilometres (310 miles) in the past 25 years after examining 70 peer-reviewed scientific articles.

They looked at findings from long-term satellite measurements, weather balloon data, [climate models](#) and [sea temperature](#) studies to determine how global warming was impacting on the tropical zone.

The findings showed it now extended well beyond the traditional definition of the tropics, the equatorial band circling the Earth between the Tropic of Cancer and the Tropic of Capricorn.

Professor Steve Turton said that meant the subtropical arid zone which borders the tropics was being pushed into temperate areas, with potentially devastating consequences.

"Such areas include heavily-populated regions of southern Australia, southern Africa, the southern Europe-Mediterranean-Middle East region, the south-western United States, northern Mexico, and southern South America," he said.

"All of (them) are predicted to experience severe drying.

"If the dry subtropics expand into these regions, the consequences could be devastating for water resources, natural ecosystems and agriculture, with potentially cascading environmental, social and health implications."

Turton said tropical diseases such as dengue fever were likely to become more prevalent.

"Some models predict the greatest increase in the annual epidemic potential of dengue will be into the subtropical regions, including the southern United States, China and northern Africa in the northern hemisphere, and South America, southern Africa, and most of Australia in the southern hemisphere," he said.

James Cook University vice-chancellor Sandra Harding said the evidence showed climate change was already affecting wildlife and rainfall in Australia, which is in the grip of its worst drought in a century.

She said studies showed changes to wind patterns meant rain was now being dumped in the ocean south of the continent, rather than over land.

"There is also evidence that many Australian animal and plant species are moving south in an attempt to track their preferred climatic conditions," she said.

"Some won't make it."

Harding said the world had to get serious about finding solutions to problems caused by climate change in the tropics.

"Tropical climate conditions are expanding and the impact of this expansion is immense because the tropics is a big, complex and important zone of the world," she said.

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