

"'There's no doubt about it that we're warming up

the climate. We're making a really big problem'" **BOBBY JORDAN**

Print Mark Send to a friend SUB-ANTARCTIC Marion Island, which houses a South African weather station, is drying up — and scientists maintain it's one of the clearest signs to date of global warming.

Alarming new rainfall, temperature, plant and animal data from the island, situated 1700km southeast of Cape Town, reveal that it has lost more rainfall per month than the total annual figure for Pretoria — and it is hotter than ever.

It is also overrun with rats, mice and alien vegetation — all this on an island that normally receives about two and a half metres of annual rainfall in one of the most isolated places on Earth.

Scientists and government officials this week warned that such changes were likely to be commonplace throughout South Africa as the planet heats up — almost certainly due to the rapid increase in greenhouse gases caused by human activity.

The government has set up an inter-ministerial committee to deal with the situation and this week announced it was about to embark on a second national survey to assess what could be done locally to help solve the problem.

South Africa is expected to experience numerous changes to its climate:

- •Port Elizabeth is likely to lose its status as South Africa's windy city. It already averages much less than its previous average of 5.5m of wind per second;
- Potentially flammable, invasive grass species in the Karoo will increase the likelihood of fires;
- •Warmer temperatures and a decrease in rainy days in winter in the Western Cape, which already affect deciduous fruit farmers, will also put maize and sugar farmers at risk;
- •An increase in rain in the eastern half of the country is likely to prompt animal migration in that direction;
- •Temperature increases are likely to increase the risk of the spread of vector-borne diseases:
- •The national estuarine fishing catch could decrease by 35% and the in-shore catch by 18%, according to a University of Cape Town economic impact study; and
- •A 3% decline in Gross Domestic Product could occur as a result of a decrease in tourism income, according to the same UCT economic impact study.

Overall, there has been a 30% increase in carbon dioxide in the Earth's



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"Overwhelming evidence points towards human influences [in climate change]," said Professor Steven Chown, director of the Centre of Excellence for Invasion Biology at Stellenbosch University and a former researcher on Marion Island.

"There's no doubt about it that we're warming up the climate. We're making a really big problem for ourselves," he said.

Although evidence suggested Northern Hemisphere countries were far more guilty of affecting the climate due to advanced industrialisation, the impact was clearly evident in the Southern Hemisphere, scientists say, particularly in the extreme latitudes like Marion Island, where heat does not dissipate as fast as along the equator or in the tropics.

"You tend to see the signals more quickly and clearly at those [higher] latitudes," said Dr Guy Midgley, chief specialist scientist at the National Biodiversity Institute.

"Once the heat has reached the poles, then where else does it go? In this sense Marion Island is like the canary in the coal mine," said Midgley.

South Africa has set up several monitoring and research mechanisms to combat the problem, said Department of Environmental Affairs and Tourism Deputy Director-General Joanne Yawitch.

"We want climate issues integrated into all levels of government. Even if there wasn't another greenhouse gas emitted from tomorrow, there is already going to be damage," she said.

Hugh van Niekerk, Eastern Cape Regional Manager of the South African National Weather Service, who spent 14 months on Marion Island in the '80s, said he had been monitoring the steady decline in mean annual rainfall over the past 20 years — from around 2500mm to around 1750mm. "I could understand if it was normal climate fluctuation, but this doesn't seem to be the case — it just seems to be getting drier and drier," said Van Niekerk, adding that he was shocked to see the latest aerial photos showing visible changes to the island's vegetation.

"For Marion Island, you just don't get that type of thing," said Van Niekerk.

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