



Insurers could help address climate risks

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Working with South Africa's largest short-term insurer, Santam, we investigated how communities should manage the increased risks associated with climate change. The global insurance industry has focused on refining the quantification, differentiation and pricing of the risk exposure of insured assets. Our findings call into question a sole reliance on this strategy (J. Nel *et al.* CSIR/NRE/ ECOS/2011/0063/B; CSIR, 2011).

More than 80% of weather-related insurance claims in South Africa's southern Cape region were incurred in the past five years. Worse, climate models indicate that fire, flood and sea-storm risks in the area are set to increase significantly in the next 40 years. We found that a 1-in-75-year flood risk, as determined by rainfall data, could change to 1 in 45 years as a result of observed changes in land use. Risk is a dynamic and emergent property of nonlinear relationships between different risk drivers. In such fast-changing complex systems, static spatial differentiation of risk becomes less relevant.

The insurance industry should determine which assets share risk drivers and then encourage communities to manage these. Insurance can positively shape societal behaviour — some previously reactive medical insurers have become proactive promoters of healthy living.

We also find that human-induced changes to the landscape can have an equal or greater effect on risk exposure than climate change. By actively managing and restoring the ecological buffering capacity of these landscapes, communities can significantly reduce current and future risks associated with climate change.