

Climate change

The insurance industry and the South African environment

By [Alicia Gounden](#)

Climate risk has become a reality and will impact us, but along with the risks there are opportunities. How insurers navigate these risks and identify opportunities will impact their longer-term success.

This article considers the impacts of climate change on the insurance industry and focuses on the effect of climate change in South Africa and resulting action being taken locally.

A study has predicted that in 2050 global temperatures could increase by 3 degrees Celsius.¹ In this scenario:

- 55% of the population is subject to more than 20 days of extreme heat levels, beyond which the human body cannot survive.
- There is an increase in wildfires, droughts and flooding in North America.
- Water levels in Asia’s rivers are severely reduced.
- Ecosystems in the coral reefs and Amazon rain forests fail, affecting fishing yields and rainfall.
- Deadly heat conditions displace more than a billion people.
- 2 billion people are affected by a lack of water.
- Food production falls by one-fifth as crops are affected by extreme weather.
- Rising sea levels make some populous cities uninhabitable, e.g., Mumbai, Jakarta, Hong Kong and Lagos.²

The graphs in Figures 1 and 2 show an increasing trend in global average temperatures³ and extreme weather events,⁴ based on historical data.

Figure 1 shows that average global temperatures have increased by 0.75 degrees Celsius. Given the increasing trend, it is not difficult to imagine the scenario above becoming a reality in 2050.

FIGURE 1: INCREASING GLOBAL TEMPERATURES

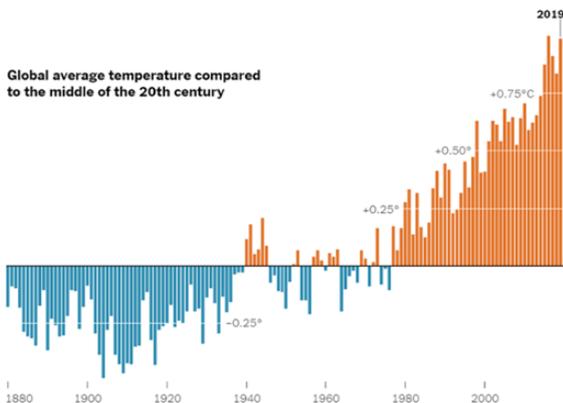
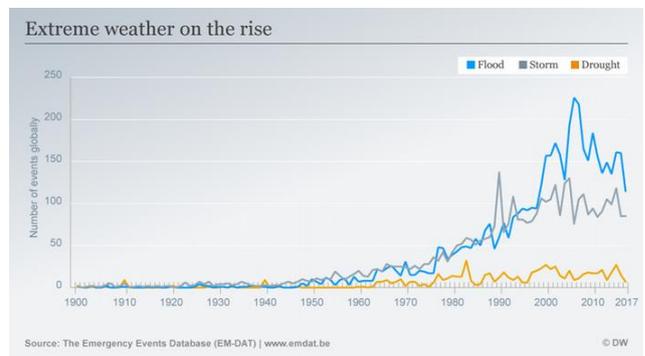


FIGURE 2: EXTREME WEATHER ON THE RISE



Insurance industry

Climate change impacts our world at multiple levels such as the progress of our society, social responsibilities, politics, regulation, and economics.

The insurance industry is one of the industries directly and immediately impacted by climate change. Our industry also can influence substantial positive change in climate management.

We consider the possible impacts to various areas of the insurance industry in the table in Figure 3.

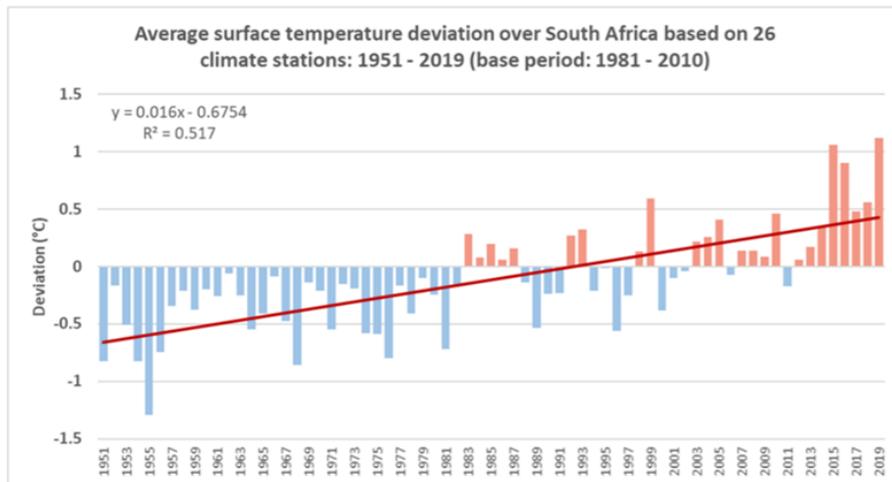
FIGURE 3: AREAS OF INSURANCE BUSINESS IMPACTED

Claim frequency and severity	The increase in natural disasters results in an increase in frequency and severity of claims due to mass damage to property, business interruption, injuries, deterioration of health through spread of disease and malnutrition and loss of lives.
Business volumes	Insurers may see an increase in new business as the need for insurance becomes more apparent to the public.
Regulation and legislation	Insurers will need to adapt to changes in legislation and regulatory reporting. This may include changes in risk management and inclusion of climate risk scenarios as part of ORSAs. Changes in legislation will impact business models. Insurers will need time, money and expertise to adapt.
Operational risk	Insurers themselves face the risk of business interruption after a natural disaster. There is a risk that systems and processes could fail at a time of mass claim volumes. Furthermore, operational risk may rise from inadequate compliance to a changing regulatory and legislative environment.
Reputation	Insurers' attitudes towards reducing their carbon footprints could impact their reputations as social responsibility becomes more important to society.
Assets backing liabilities	Assets available to match liabilities may change as new industries such as renewable energy replaces carbon-intensive industries. Changes in risk profile as well as regulatory changes will impact the assets chosen to back liabilities and meet solvency capital requirements.
Pricing	Insurers need to consider the change in risk profile, policyholder needs and their perceptions of risk due to climate change. Geographical changes also need to be considered. For example, rising sea levels resulting in destruction of coastal towns and wildfires causing people to migrate out of high-risk areas.
Capital and reserving	The higher probability of extreme events may result in insurers needing to hold additional capital to ensure solvency.
Product innovation	Innovations in motor, transport, industrial and agricultural industries to reduce carbon footprint might impact current products offered and the creation of new products to meet changing needs. Individuals may show growing interest in green investment options for long-term savings as society becomes more environmentally conscious.
Reinsurance	The increase in the frequency and severity of natural disasters results in higher reinsurance prices and could potentially impact the availability of reinsurance.

South African market

The graph in Figure 4 shows an increasing trend of temperatures in South Africa.⁵

FIGURE 4: SOUTH AFRICA TEMPERATURES, 1951-2019



South Africa has also seen an increase in extreme weather events. Some of the most notable events are listed in the table in Figure 5.

FIGURE 5: SOUTH AFRICAN NATURAL DISASTERS

DATE	INCIDENT	DESCRIPTION
2021	Tropical storm Eloise	KZN, Mpumalanga and Limpopo were affected by heavy rains and flooding. The floods caused damage to buildings, roads and bridges and led to the loss of four lives. ⁶
2020	Table Mountain wildfires	A wildfire spread through Table Mountain and Lion's Head. The fire was fueled by gale force winds up to 60 km/h. ⁷
2019	KZN easter floods	The 2019 floods claimed 85 lives, caused damage to property of more than ZAR 1 billion, displaced 1,469 people who were accommodated in community halls, and damaged at least 235 private homes. The floods also damaged municipal supply, which caused water and power outages for up to two months and which frustrated the restoration of crucial city services such as water, sanitation and electricity supply. ⁸
2018	Mpumalanga hailstorm	Hailstorm caused damage to farms in the Lowveld area. An estimated 30,000 cartons of citrus were destroyed. ⁹
2018	Eastern Cape tornado	A tornado caused damage to 26 schools in the OR Tambo Coastal education district. ¹⁰
2018	Sun City hailstorm	A severe hailstorm and flash flood caused damage to cars and buildings at the Sun City resort in Pilanesberg. ¹¹
2017	Knysna fires	Wildfires burned from Knysna to Sedgefield in the west to Plettenberg Bay in the east. Between 700 and 1,000 houses and thousands of hectares of plantations were destroyed. ¹²
2017	Drought	South Africa has experienced severe drought, which started in 2014. This eventually led to Cape Town being declared a disaster area due to critically low water supply. ¹³

As highlighted in the incidents listed in Figure 5, some of the concerns regarding the effect of climate change in a South African context include:

- Socioeconomic risks as poor communities tend to be most vulnerable and hardest hit. This places further strain on government and therefore taxpayers to fund the costs of damage. It also compounds the difficulties faced by our poorer communities.
- Damage to infrastructure.
- Impact on the country's already strained healthcare sector.
- Impact on farming and export business.
- Availability of water.
- Impact on service delivery.
- Damage to businesses having a knock-on effect on our already fragile economy.

South African insurers have also seen an increase in claims as a result of extreme weather events.

According to a 2020 non-life survey, the claims incurred ratio has increased from 55.3% in 2018 to 58.9% in 2019 as higher frequency and severity of drought, flooding, storms and wildfires have been experienced in the country.¹⁴

The impact on our insurance market so far has been mostly incremental but, as the above climate risks grow, we may see larger indirect impacts on insurers from the external environment as claim and catastrophe risks increase.

South African regulation

The Prudential Authority (PA) is a member of the Sustainable Insurance Forum (SIF), which is a collective of insurance supervisors and regulators.

The forum has recognised the recommendations and guidance published by the Task Force on Climate-related Financial Disclosures (TCFD). This guidance has set a global voluntary framework for the identification, assessment, management, and disclosure of climate-related risks.

In a recent conference, members of SIF were requested to survey insurers in their respective jurisdictions.

In February 2019, the PA distributed a survey to the South African insurance and banking industry to gather a view on the awareness, understanding and level of implementation of the TCFD recommendations. The aim of the surveys is to aid the PA in understanding the industry's awareness around climate change and the reporting landscape on climate-related information.

Furthermore, it provides information to guide the PA's strategy and supervisory approach to climate risk.¹⁵

Voluntary reporting of climate change risks and strategies will increase over time, and regulatory requirements may soon follow.

South African green investment

Climate change also presents opportunities for development such as renewable energy to replace coal power.

Investment in recycling initiatives could also provide jobs and a much-needed improvement in South African unemployment rates.

Our country has already embarked on some initiatives to promote socially responsible business.

The Johannesburg Stock Exchange (JSE) has launched a Responsible Investment index where listed companies are reviewed against environmental, social and governance concerns.¹⁶

The JSE also launched a Green Bond segment in 2017. The proceeds from these instruments finance new or existing green projects.¹⁷

The World Wildlife Fund (WWF) has developed a Green Financial Solutions initiative to partner with institutions and promote sustainable and low-carbon financial mechanisms in South Africa.¹⁵

An example of a recent initiative is the Green Outcomes Fund, which was established in partnership with the University of Cape Town Graduate School of Business, GreenCape and the World Bank.¹⁸

The Green Outcomes Fund incentivises local South African fund managers to increase investment in green Small, Medium and Micro-sized Enterprises (SMMEs) by funding green job creation, climate mitigation and improved water and waste management.¹⁹

Changing consumer awareness, activists and regulation, and hard risk/return dynamics may place pressure on current investment decisions to help achieve the necessary change in business. These pressures make it particularly important to consider the green status of long-term investments.

It is also important to consider long-term trends of climate change versus long-term trends in green investments. These considerations may assist institutions in staying ahead of the curve when it comes to green investing.

While the initiatives taken by our country are a step in the right direction, there is still significant room for growth and many opportunities for businesses to do more.

Conclusion

Natural disasters cause disruption, financial loss and, most importantly, put lives at risk. Therefore, climate change and ways to minimise the future damage must be a current priority.

Scientists have predicted that we are close to reaching the point where the damage to the climate may be irreversible, with our planet crossing the global warming threshold as soon as 2027.²⁰

It is crucial for our industry to use our expertise to prepare for and assist with measures to reduce the impacts and manage climate risk.

We can start by mitigating our own climate impact, working to help others mitigate their impact and remaining resilient in the face of climate change such that we protect the financial health and well-being of clients and society in general.

How can Milliman help?

Milliman can assist you with various aspects of your climate-related risk management, including advice on:

- Assessing climate-related risk exposure
- Incorporating climate-related risk into your risk management system
- Climate-related risk reporting and key risk indicators (KRIs)
- Incorporating climate-related risk into your own risk and solvency assessment (ORSA)
- Best practice in relation to climate-related risk financial disclosures
- Climate-related risk modelling



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CONTACT

Alicia Gouden
alicia.gouden@milliman.com

ENDNOTES

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