Actuaries Institute Launches Climate Index

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- The index measures weather extremes.
- Aim is to help organisations assess risk.
- Property damage, health and other risk data to come.
- First AACI shows frequency of extreme conditions in Autumn 2018 was higher than historical extremes for Autumns in baseline period from 1981-2010.
- Frequency in baseline period has been exceeded in every season but one since 2010.

The Actuaries Institute has launched a climate index, an objective measure of extreme weather conditions and changes to sea levels, to help policymakers and Australia's businesses assess how the frequency of weather extremes is changing over time. The index was formally launched today, at the Institute's General Insurance Seminar.

The Australian Actuaries Climate Index, which includes a number of sub-indices, tracks changes in the frequency of extreme high and low temperatures, heavy precipitation, dry days, strong wind and changes in sea level, mainly concentrating on the 99th percentile of observations.
The components of the index were chosen due to their link to risk, an area of expertise for actuaries, and because extremes have the greatest potential impact on people and, often, the largest cost to the economy.

The index is the culmination of an extensive research and implementation process. It is the result of consultation with Australia's Bureau of Meteorology, Commonwealth Scientific and Industrial Research Organisation (CSIRO), leading insurance and natural hazard scientists and regulators.

"The index is designed to help us understand how extreme weather, and hence risk levels, may be shifting as a result of climate change," said Tim Andrews, a Principal at Finity Consulting.

Mr Andrews, who has 30-years of actuarial experience, collated the index, using data from the Bureau of Meteorology's extensive network of weather stations and tide gauge facilities. The data was collected nationally and grouped into 12 climatically similar regions.

"This index is a very important piece of work for the Actuaries Institute," said Institute President Barry Rafe. "Actuaries are skilled at summarising and presenting complex data, and the assessment and management of the financial consequences of risks."

"This project aims to help big and small corporations better understand the changes in weather extremes across Australia. It is one way to bring science and business together."

Actuaries Institute Chief Executive Elayne Grace said: "This work will assist businesses to assess and report risks from climate change, and Australians more generally will be able to look at the data and see what's going on."

Australian financial institutions can reference the index to help them meet their commitments to adopt international risk reporting measures, Ms Grace said. The Financial Stability Board's Taskforce on Climate-Related Financial Disclosures in 2017 wrote recommendations for a single international cross-industry standard for disclosing those risks.

The Australian Prudential Regulation Authority (APRA), which last year warned that the risks of climate change were “foreseeable, material and actionable now”, has welcomed the new index.

APRA Executive Board Member Geoff Summerhayes said: “APRA has a longstanding working relationship with the Actuaries Institute, collaborating on financial risk metrics and standards. We believe this initiative is a positive step towards helping regulated entities to understand and manage the potential impact of climate risk on their businesses.”

Chief Executive Officer of the Investor Group on Climate Change, Emma Herd, said: "The effects of climate change are here and now, and getting worse. Australian investors are looking for the tools they need to better assess and mitigate physical risks for their investments. The Australian Actuaries Climate Index is a welcome new tool for managing climate risk.”

The IGCC represents Australian and New Zealand institutional investors with around $2 trillion in funds under management, and others in the investment community concerned about the impact of climate change on investments.

The very first Australian Actuaries Climate Index, launched today, covers the period 1981 to 2018, and shows the frequency of extreme conditions in Autumn 2018 was higher than the historical extremes for Autumns in the baseline period from 1981-2010. In fact, the frequency in the baseline period has been exceeded in every season but one since 2010.

The results are compared to a 30-year reference period, mostly focusing on the 99th percentile of observations. The index will be updated each quarter.

The Australian index was built following the establishment of a similar tool in the United States and Canada that tracks different components to measure risk and climate change. That index, published quarterly, measures the frequency of extreme weather and the extent of sea level change. The US/Canada index is supported by a number of actuarial groups, including the American Academy of Actuaries and the Society of Actuaries.

The Actuaries Institute plans to develop more explicit measures of risk and the climate index represents the first phase of that work.

"This is a first step," Ms Grace said. "We hope to build on this index by attaching risk data, such as damage to property and health statistics, in order to understand the relationship between weather extremes and risk, enabling more explicit risk indices to be developed.”

LINKS: [FAQs] | [Design Documentation] | [Presentation]

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About the Actuaries Institute
As the sole professional body for Members in Australia and overseas, the Actuaries Institute represents the interests of the profession to government, business and the community. Actuaries assess risks through long-term analyses, modelling and scenario planning across a wide range of business problems. This unrivalled expertise enables the profession to comment on a range of business-related issues including enterprise risk management and prudential regulation, retirement income policy, finance and investment, general insurance, life insurance and health financing.

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