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## Technology:

An Antidote for Insurers to Combat  
Climate Change

Author: **Pratik Menon**

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*We are the first generation to feel the impact of climate change, and the last generation that can do something about it."*

**- President Barack Obama, at COP21, Paris, 2015**

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Global warming and biodiversity loss continue to be a real and present danger in 2021—more than five years after the Paris Agreement was signed back in 2015. According to the UNESCO "World in 2030" survey report, climate change has emerged as by far the most pressing challenge of the decade. Nearly 70% of the respondents were concerned about increasing natural disasters, extreme weather, biodiversity loss, risk of conflict or violence, and impacts on oceans. And investment in green solutions, education on sustainability, promoting international cooperation, and building trust in science were outlined as critical measures that nations must take to mitigate this challenge.

The results of the UNESCO survey are not without reason. 2020 is among the three warmest years ever despite prevailing La Niña conditions typically associated with a cooling effect across the globe. Besides, in this past decade, the world has witnessed several natural disasters that have destroyed homes and businesses, led to an economic loss of billions of dollars, and placed our entire food systems in jeopardy. In 2019-20, bushfires in Australia burnt almost 19 million hectares, caused damages of more than \$4.4 billion, and killed 33 people and over a billion animals. It is estimated that the insurance industry's loss footprint for the bushfires stood at \$1.3 billion.

In 2020, wildfires in California burned more than 5 million acres, destroyed more than 9,657 homes and commercial structures, and cost insurance firms more than \$5 billion in losses. These two isolated natural disasters are only the tip of the iceberg (no pun intended). Statistics show that the world will continue to see changes such as an increase in moisture content, frequent extreme heatwaves, decrease in thickness and extent of sea ice, melting of glaciers, ocean warming, and rising sea levels over the next ten years. In 2020 alone, natural disasters cost accelerated by climate change was at a whopping \$210 billion worldwide.

## Challenges for insurers

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How human systems and global climate interact will define the way insurance companies behave. The combination of severe catastrophic events, with ever-evolving regulatory requirements, can alter business models, making few risks unfeasible for insurers and unaffordable for customers. Natural disasters are harder to insure, and the impact is across the community and lines of business—homes, businesses, cars, boats, crops, and life. They

require insurance companies to have large amounts of capital at hand to cover claims in case of a disaster. This access to cash reserve will be reflected in insurance prices.

Moreover, projected escalation of climate risks such as increased frequency of floods and wildfires could lead to underinsurance or no insurance at all. Consequently, substantial market dislocation would include premium loss, disaster relief bail-out by the government, and higher self-insurance rates.

## How can technology help mitigate risks?

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New tech such as big data, AI, and machine learning is reshaping the insurance industry and fundamentally changing the business model in the long run.

### **Advanced Analytics**

Can aid insurance carriers in assessing insured property data and historical weather records to predict future climate conditions and improve pricing and risk selection. Predictive analytics has a huge potential to broaden risk assessment considerations substantially.

## Artificial Intelligence

Enables tracking and warning people before climate change-related disasters occur. Insurance company Hippo currently offers this AI functionality. They use intelligent home sensors and IoT technology to identify and predict damage, mitigating the impact of events. Several major insurance carriers are using an AI-enabled network of rooftop sensors to track and monitor weather patterns in the US.

## Telematics

Helps reduce fuel emissions. The information obtained from these devices can help measure speeding, sudden acceleration, idling behaviors, and harsh braking, which are all culprits for increased fuel consumption and higher carbon emissions.

# Innovative efforts of insurers to manage climate risks

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## Satellite Imagery:

With an increase in the number of natural calamities over the last decade, a Europe-based reinsurance company strategically partnered with one of the world's largest commercial radar satellite operators in 2020 to improve their natural catastrophic services by using advanced

radar satellite monitoring technology. This technology can provide near-real-time monitoring before and during the event, enabling early warning systems.

## Location-Risk Intelligence:

Another European reinsurance company assesses the risks based on historical data for locations worldwide with future-focused input from clients and experts considering

50- and 100-year scenario analyses. The risk assessments are based on performance indicators that are easily visualized in distinctive and detailed map types in color-coding.

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#### **Other Notable Efforts:**

- One of the largest auto insurance company in the US uses GPS technology for pricing.
- Another US-based P&C insurance carrier offers a 10% discount on auto insurance for hybrid or alternative fuel vehicles.

## Additional innovation opportunities

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### **(AR/ VR) for Claims Adjustment:**

For the property line of business, the insured needs to capture images of the property before policy issuance and after any damage. These images captured via mobile phone are saved in the database. In case of any natural calamity, insurance companies usually face the unavailability of an adequate number of claim adjusters. This issue can be resolved by superimposing the captured images in a closed environment. Claims adjusters would be able to review the damages of multiple

properties and process claims effectively without traveling to the affected location.

### **Use of Biometrics in Organizations:**

Biometric technology has the potential to eliminate the demand for plastic ID cards by offering an affordable and secure alternative that reduces frauds. Insurance carriers could provide discounts to organizations with biometric technology, which results in reduced use of plastic. This results in a reduction in greenhouse emissions which is beneficial for insurers for the long haul.

# Road ahead for Insurers

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Insurers need to reciprocate to shifts propelled by climate change by broadening the relevance of the insurance industry from risk mitigation via risk transfer, significantly as multi-billion-dollar catastrophes increase in frequency. They need to be proactive than reactive to help clients avoid disasters.

Climate change is inevitable, but risk management is achievable, and all insurers should strive for the same. Coupling insurance models with climate change policies may just be the solution.

## About the Author

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Pratik is a Consultant in the Property & Casualty Insurance domain at LTIMindtree. He has expertise in project delivery of web applications, with a focus on Digital Transformation across the Banking & Insurance domain. Pratik has done his Masters in Business Administration from the Great Lakes Institute of Management, Chennai.

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