

CNP Assurances provides the insurance sector with an actuarial climate index on French data

CNP Assurances is publishing a green paper entitled “Climate Risk and Impact in Insurance”. The paper was drafted in partnership with the DIALog Chair, which studies modern risk assessment methods combining data science, artificial intelligence and big data techniques. One of the key results of DIALog’s work is the adaptation of actuarial climate indices to improve the assessment and measurement of climate risks in France.

Recent studies predict an increase in the frequency and severity of events caused by climate change. Floods in Germany, Switzerland and Italy have wrought substantial damage, while Brazil has been impacted by a series of extreme weather events, with unprecedented floods in the south of the country and a “severe” drought forecast for summer 2024.

The consequences of climate change are likely to be as profound as they are widespread, particularly in property and casualty, health and life insurance. These impacts may pose a threat to the sustainability of insurance programmes, notably since an increase in compensation may call for an increase in premiums and solvency capital.

Against this backdrop, the CNP Assurances research team and the DIALog Chair have worked to adapt the Actuaries Climate Index (ACI) to French data. The ACI is already used by the US, Canada and Australia. The aim is to provide private and public players, particularly in insurance, with factual tools for measuring climate hazards over the long term. These tools are reviewed in the green paper.

Helping to quantify the effects of climate change on insurance company balance sheets, measure its impact on the sustainability of insurance businesses, test the resilience of players and define public and prevention policy.

With weather conditions having changed, historical data is no longer representative of the current situation. As such, insurers need to reassess their risk models and integrate climate change projections.

The green paper by CNP Assurances and the DIALog Chair addresses the industry’s need for evidence-based measures to inform risk management experts. In a practical application for the sector, it focuses on the relationship between heat waves and human mortality in France, stressing the importance of using a more forward-looking scenario-based approach when studying the future impact of heat on mortality for internal risk and solvency assessment purposes, in addition to current models.

Using climate indices to obtain accurate forecasts of extreme events

Actuarial climate indices have been established to help insurance companies predict and manage climate risks. Similarly to the widely known Consumer Price Index (CPI), which tracks changes in the cost of a standard basket of goods and services, actuarial climate indices measure climate risks using a basket of extreme climate events and changes in the sea level. The focus of actuarial climate indices is on extreme

events rather than averages as they have a greater impact on policyholders and their property, and, more broadly, on society and the economy.

The French Actuarial Climate Index (*Indice climatique actuariel français*, ICAF)* consists of six components: maximum and minimum temperatures, precipitation, drought, wind power and sea and ocean levels. All ICAF calculations are aggregated at regional level, for France and Corsica in their entirety, component by component.

Marie-Aude Thépaut

CEO of CNP Assurances



"What are the systemic impacts of heat waves? How will heat waves evolve in the future? And what impact will they have on people and material goods? These are urgent questions to which insurers must find answers. The DIALog Chair, a partner of CNP Assurances, provides public and private stakeholders with actuarial tools to better understand the impact of these changes on our daily lives."

The green paper by CNP Assurances and the DIALog chair is available [HERE](#).

* ICAFs are estimated with high resolution, set at 0.1° x 0.1° degree of latitude and longitude, i.e. approximately 122 km², providing more than 10,000 grid points for France and Corsica.

About CNP Assurances

Present in 19 countries around the world, the CNP Assurances group is a leading player in the insurance industry with more than 7,000 employees and net profit of €1.550 billion in 2023 (IFRS 17). A subsidiary of La Banque Postale, CNP Assurances is a member of the major public financial group. In France, CNP Assurances is No. 1 in property loan insurance, No. 2 in life insurance* and, in 2023, will have integrated the property insurance activities of La Banque Postale, making it a comprehensive insurer of property and persons.

It is the 5th largest insurer in Europe, with a particularly strong position in Italy. In Brazil, the Group's 2nd largest market after France, it is the No. 3 insurer in savings/pensions and borrower insurance. With its multi-partner model, its solutions are distributed as part of long-term strategic partnerships, or as part of an "open" model. In total, more than 36 million people worldwide are insured by CNP Assurances for personal risk/protection and 14 million for savings and pensions. CNP Assurances is a responsible insurer and investor (€400 billion invested in all sectors of the economy). It works to promote an inclusive and sustainable society by providing solutions that protect and facilitate all life journeys for as many people as possible.

**France Assureurs 2022 key data.*

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