



PARAMETRIC COVERAGE

How it can assist during recovery from natural disasters

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Why it's critical to have insurance:

Insurance provides you with a financial safety net, that helps you and your loved ones recover after something bad happens — such as a natural disaster, fire, theft, or other peril.

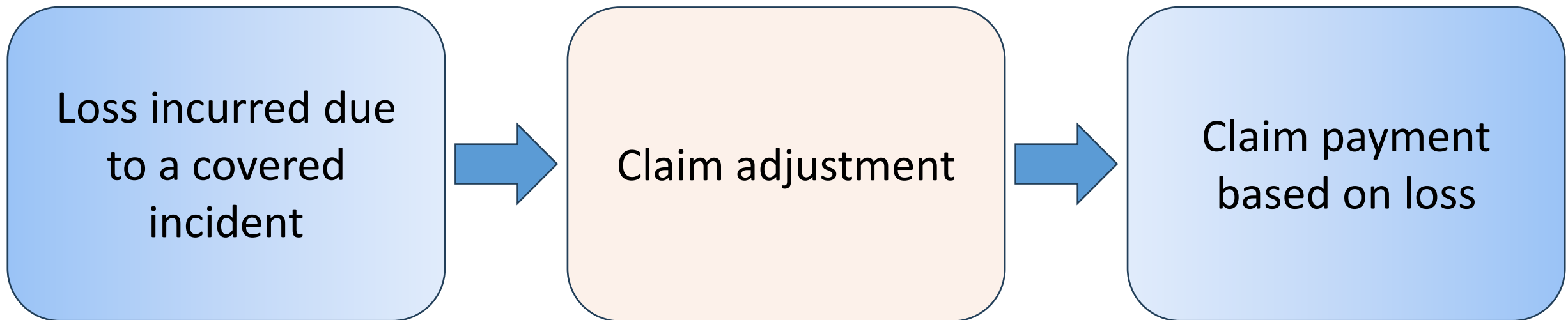




Indemnity Insurance Policy

Under a Traditional (or Indemnity) Insurance Policy:

- Customer selects covered peril(s) – wind, fire, flood, earthquake, etc.
- Chooses deductibles, policy limits, endorsements
- Pays premium

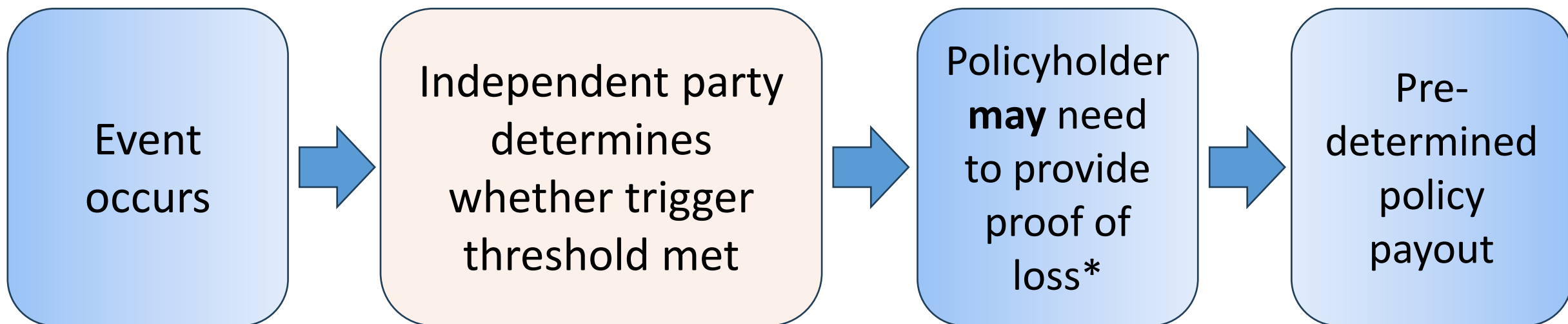




Parametric Policy

Under a Parametric (or Index-Based) Policy:

- Customer selects or negotiates trigger threshold(s) – windspeed, proximity to fire, rainfall amount, ground velocity, etc.
- Chooses payment amount when policy triggered
- Pays premium



* Proof of loss may be required so the policy will not be regulated as a financial derivative



Emerging Parametric Market

COVERAGE GAPS AND NEEDS—money delivered promptly after a loss is far more effective than delayed payments; changes in government disaster programs; simplicity

ENABLING FACTORS – such as *new technologies* and *greater availability of data* at an *increasingly granular scale*

GROWING MARKET – due to *education* and *awareness* of how parametric covers work and their value





Emerging Parametric Market

COMPLEMENT RATHER THAN REPLACE traditional indemnity insurance and other risk mitigation strategies

FILL PROTECTION GAPS in areas where traditional insurance has been difficult to obtain or for risks where traditional insurance is unavailable

INCREASINGLY POPULAR by providing a *streamlined claims process* and can provide *fast payments* that speed up disaster recovery





Considerations for Parametrics: Benefits

- **Benefits of parametrics exist for both the customer and the insurer**
 - *Example: speed of payment, transparency of triggering event, certainty of payment amount*
- **For insurers, parametric coverage also increases certainty by capping the total amount of liability**
 - *Important for high-severity, low-frequency events*
- **Parametric contracts can also have broader benefits to society**
 - *Example: reduced chance of insurance fraud since the trigger is independently verified and the payment amount is fixed*



Considerations for Parametrics: Challenges



- **Consumer acceptance and adequate consumer information**



- **Regulatory concerns --does coverage fall outside the legal definition of insurance, assurance that solvency concerns have been addressed**



- **Speed of payment is critical but beware of backlash when payments are less than would have been the case under indemnity policies**



Examples of Parametric Products in the Market

Technology improvements and availability of high-resolution data are leading to more parametric insurance offerings in the U.S. and around the world.

These include the products for:

Earthquake

Hurricane & Tropical Storm

Flood

Hail

Wildfire





Parametric Examples

PRIMARY PERILS:

Earthquake

In 2019 – JumpStart began offering **earthquake** parametric insurance for individuals (renters & homeowners) and small businesses in California, Oregon and Washington.

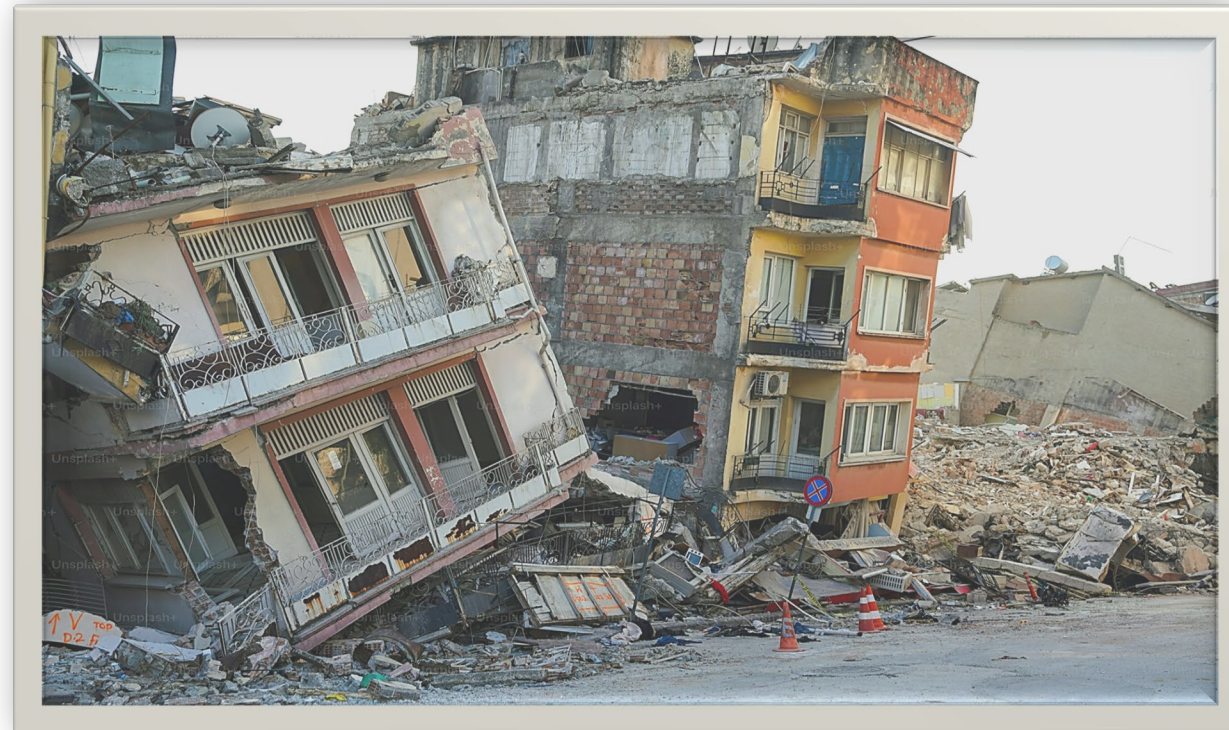
Using AI-driven technology, policies provide quick payouts up to \$10k for individuals or \$20k for small businesses, based on U.S. Geological Survey earthquake measurements. At the time, for \$10k limits the average monthly cost was \$20 in California, \$13 in Washington, and \$8 in Oregon, and double for \$20k limits.

<https://www.insurancejournal.com/news/national/2021/10/04/635258.htm>

In 2023 – Liberty Mutual Re developed a parametric reinsurance treaty for earthquakes that takes its trigger from installed sensor data provided through Safehub technology.

In 2024 – Liberty Mutual Re and Safehub also developed a sensor-based parametric **earthquake** insurance cover in the U.S. for the University of California. Leveraging 180 Safehub sensors installed across multiple UC locations, it was the first building-specific, sensor-based parametric earthquake insurance cover in the U.S.

<https://www.artemis.bm/news/liberty-mutual-re-backs-first-us-sensor-parametric-quake-cover-for-university-of-california/>





Parametric Examples

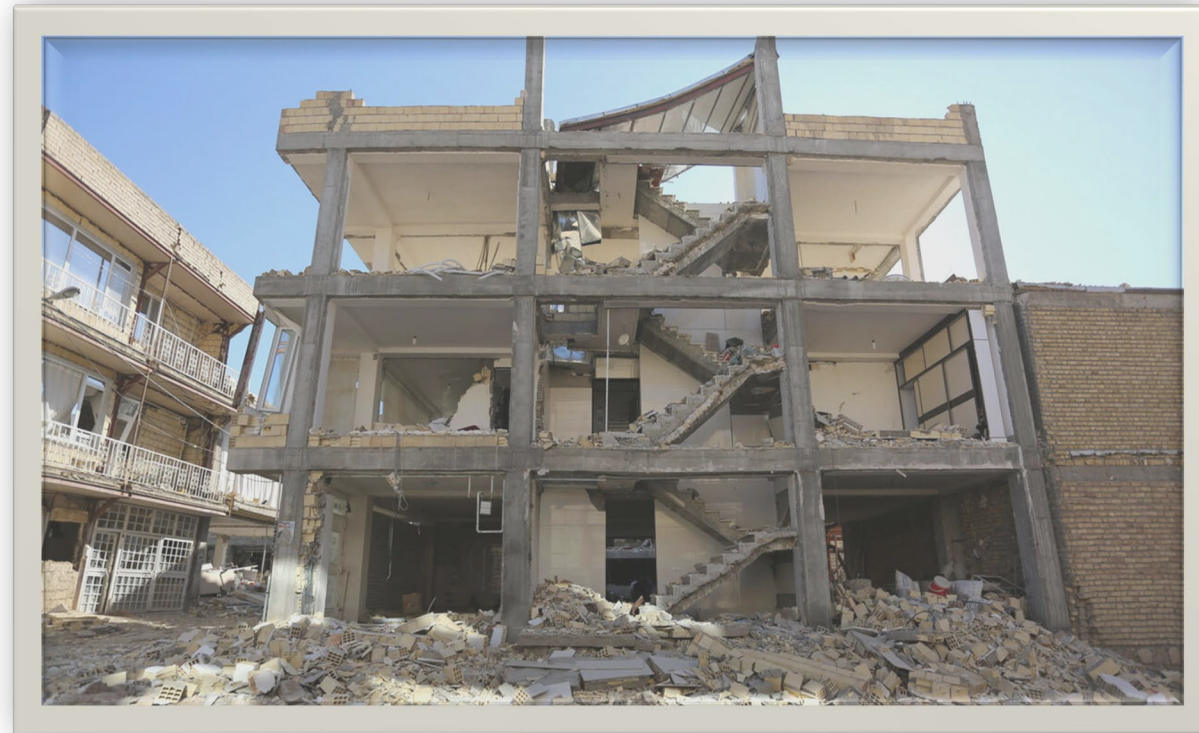
PRIMARY PERILS:

Earthquake & Hurricane

In 2022 – specialty (re)insurance group Chaucer partnered with parametric insurance provider K2 Parametric to provide ***hurricane and earthquake*** damage cover for U.S. *mid-size corporates and municipalities*.

In 2024 – Chaucer announced plans to offer a parametric weather product to cover *non-damage business interruption*.

<https://www.chaucergroup.com/news/chaucer-announces-entry-into-weather-insurance-market>



In 2023 – The professional services and risk management firm Aon helped the *Government of Puerto Rico* set up the first parametric insurance protection mechanism employed to reduce FEMA's Obtain & Maintain (O&M) requirement.

The program designed with ***hurricane and earthquake*** triggers may help illustrate how federal agencies can work with the insurance industry to meet coverage needs.

<https://www.reinsurancene.ws/aon-completes-historic-parametric-insurance-program-for-puerto-rico/>



Parametric Examples

PRIMARY PERILS:

Hurricane & Tropical Storm

In 2022 – Global advisory firm WTW and The Nature Conservancy (TNC) partnered with Munich Re to provide the first coral reef insurance policy in the U.S., based on a similar program in Mexico.

The parametric insurance program in Hawaii will provide funds to protect, restore, and repair damaged reefs in the aftermath of **hurricanes or tropical storms**.

<https://trellis.net/article/nature-conservancy-debuts-new-hawaii-coral-reef-insurance-plan/>



In 2024 – The Cayman Islands National Insurance Company (CINICO) launched a parametric for homeowners set up the first parametric insurance protection mechanism employed to reduce FEMA's Obtain & Maintain (O&M) requirement.

The policy will pay out pre-agreed amounts automatically to cover incidental expenses from a **hurricane**, without the need to submit a claim in the event of a hurricane of a Category 3 or above, which passes within a specified distance from the Cayman Islands. The payout will be issued within 14 to 21 days of the storm passing, to help cover expenses not covered by homeowners insurance (e.g., additional groceries, securing the premises, and cleanup expenses regardless if damage to the home).

<https://www.reinsurancene.ws/cinico-launches-new-home-insurance-policy-with-parametric-coverage/>



Parametric Examples

SECONDARY PERILS:

Flood

In 2022 - FlashFlood offers parametric **commercial flood** coverage in the U.K. and U.S. using a minimum water depth as the trigger for each policy.

With just 5% of businesses having traditional flood insurance, the product can pay catastrophic flood claims within hours after an event. "FloodFlash can be used for flood coverage as a standalone policy or in combination with NFIP policies since we can offer coverage to about the \$500k limit and our coverage can be used for any loss incurred by flooding."

<https://www.propertycasualty360.com/2022/11/21/flood-insurer-launches-the-first-mass-market-parametric-flood-insurance-coverage/>

In 2024 - Guy Carpenter introduced FloodShield, a parametric **flood** risk solution designed to have broad applicability and can scale to support large portfolio coverage, with users expected to be insurers, reinsurers, corporations and public entities.

The risk transfer will cover any loss, from property to business interruption, with limits up to \$100 million via traditional insurance and reinsurance markets, but higher limits may be available via the use of insurance-linked securities. Payouts are expected within weeks.

<https://www.artemis.bm/news/guy-carpenter-launches-floodshield-near-real-time-parametric-flood-cover/>





Parametric Examples

SECONDARY PERILS:

Flood

In 2023 - Swiss Re, Guy Carpenter, and insurtech ICEYE launched a pilot parametric **community flood** insurance program for low- and moderate-income communities in high-flood-risk New York City neighborhoods.

The program will award up to \$15,000 to qualifying households within days of a flood disaster. The parametric trigger utilizes a mix of satellite data, ground-based real-time sensors, and social media images.

<https://www.artemis.bm/news/swiss-re-guy-carpenter-iceye-deliver-nyc-parametric-flood-insurance/>

In 2022 - Cloud to Street (C2S), a climate technology company, partnered with parametric insurance platform Raincoat and Munich Re to provide parametric **flood insurance** coverage in Columbia.

Under the national program, over 100,000 smallholder farmers can receive payouts within days and without needing to file a claim, a particular challenge in developing countries with rural areas.

<https://www.insurancebusinessmag.com/us/news/catastrophe/whats-powering-parametric-flood-insurance-418987.aspx>





Parametric Examples

SECONDARY PERILS:

Flood

In 2024 – Amwins partnered with Insurtech Floodbase to launch a new **flood** product target at California Municipalities, to fill a gap where municipalities are largely uninsured against flooding despite atmospheric river events costing more than \$1 billion annually.

It will provide rapid access to capital to help fund emergency response, offset lost tax revenue, establish residential rebuilding programs, or repair public infrastructure, for example.

<https://www.artemis.bm/news/amwins-and-floodbase-partner-on-parametric-flood-insurance-for-california-municipalities/>



In 2024 – The CA Insurance Commissioner announced a new **community-based flood** insurance parametric that will provide a payout to residents in the City of Isleton, a low-lying community in the Sacramento region, if floodwaters reach a pre-determined depth.

This would be separate from and intended to augment existing NFIP coverage and could be used to address structural damage to the property or cover other costs associated with evacuations (e.g., lodging, food, transportation) or business/job interruption.

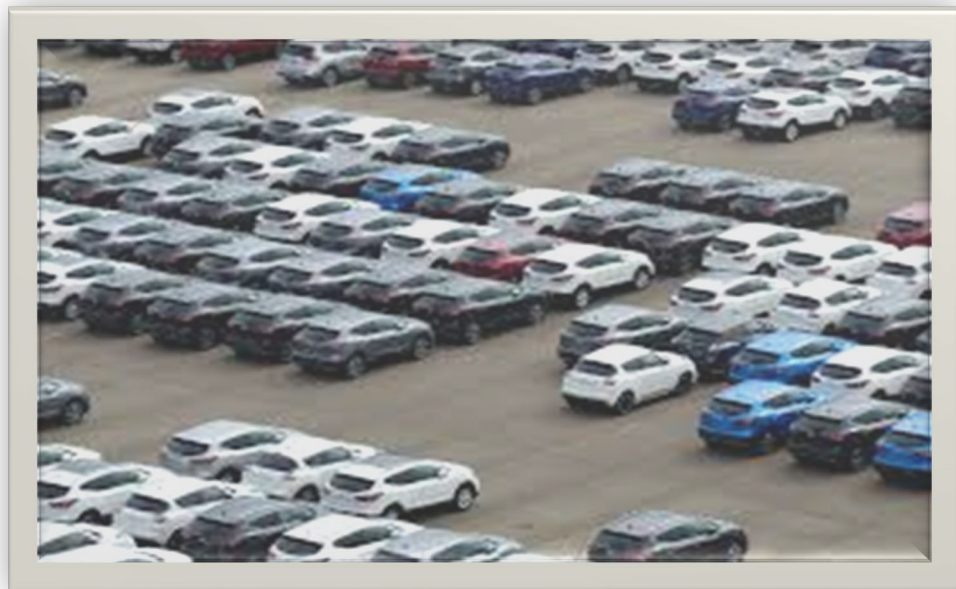
<https://www.insurance.ca.gov/0400-news/0100-press-releases/release-51.cfm>



Parametric Examples

SECONDARY PERILS:

Hail



In 2022 – Mainstay Underwriting offers parametric insurance for Australian car dealership to cover **hail** damage.

The parametric trigger is based on the size of hailstones using a hailstone measuring unit installed directly on the roof of car dealerships.

<https://www.insurancebusinessmag.com/au/news/breaking-news/size-matters-mainstay-underwriting-launches-parametric-hail-insurance-402008.aspx>



In 2020 – Swiss Re Corporate Solutions launched HAIL, a parametric solution for businesses to cover **hail** damage in the U.S.

CoreLogic serves as the hail data provider using a proprietary hail verification model to verify the maximum hail size both at the location and in the surrounding area of an event, to determine whether a parametric policy is triggered. It includes a pay-out table that outlines policy amounts for reported hail size at specific location(s) during a hailstorm event.

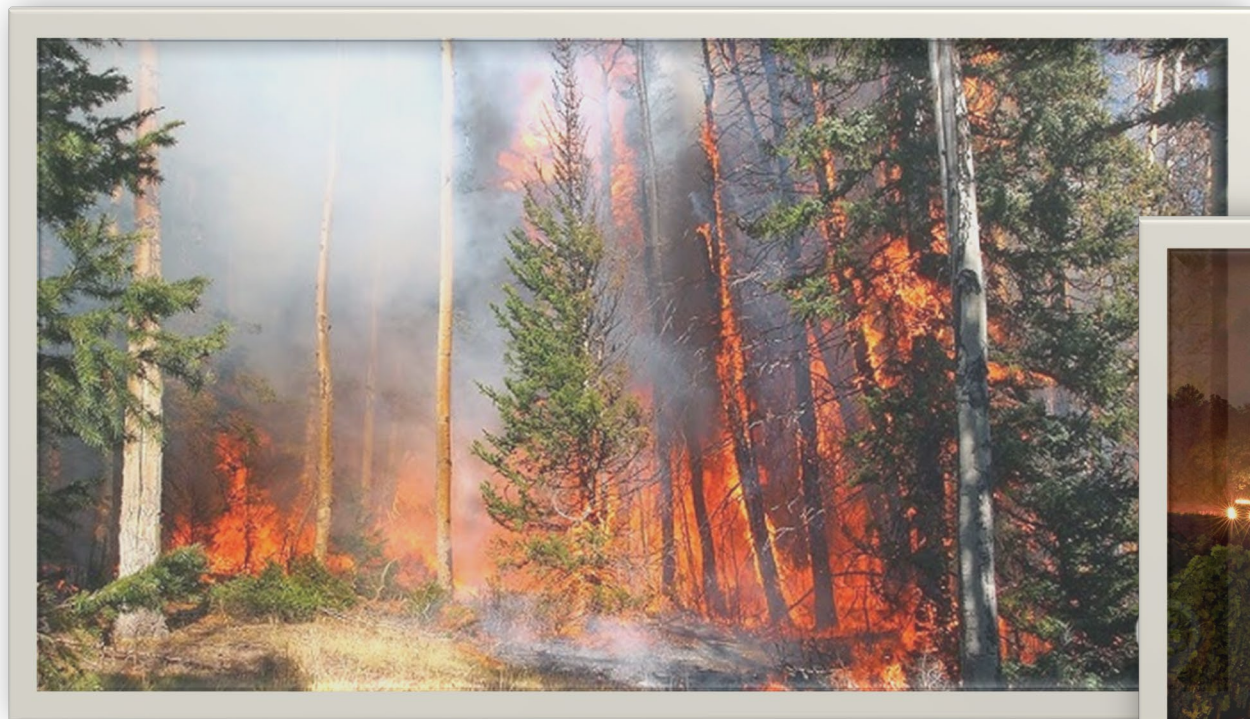
<https://www.artemis.bm/news/swiss-re-corso-launches-parametric-hail-insurance-for-the-u-s/>



Parametric Examples

SECONDARY PERILS:

Wildfire



Marsh Specialty's parametric solutions group indicates that enhanced data, research, and improved modeling enables the insurance industry to detect and monitor **wildfire** events with increased accuracy in a near real-time basis.

Their clients are able to use parametric wildfire as a standalone policy or as an additional coverage to fill gaps in coverage, such as non-damage business interruptions, or be used as a deductible buydown. Typical parametric clients include forestry operations and wineries.

<https://www.businessinsurance.com/More-buyers-seek-parametric-wildfire-cover/>



Thank you

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Additional Resources

- Milliman (May 18, 2022), Parametric insurance: A captivating solution: <https://us.milliman.com/en/insight/parametric-insurance-a-captivating-solution>
- National Association of Insurance Commissioners (NAIC), Parametric Disaster Insurance: <https://content.naic.org/cipr-topics/parametric-disaster-insurance>
- PropertyCasualty360 (February 23, 2021), What is parametric insurance, and why should we care? <https://www.propertycasualty360.com/2021/02/23/what-is-parametric-insurance-and-why-should-we-care/>
- PropertyCasualty360 (March 23, 2023), Parametric insurance: The potential for underserved communities, SMEs: <https://www.propertycasualty360.com/2023/03/23/parametric-insurance-the-potential-for-underserved-communities-smes/>
- Wharton, Risk Management and Decision Processes Center (June 8, 2022), Parametric Insurance: Shaping the Future of Public Sector Resilience with Data and Technology: <https://riskcenter.wharton.upenn.edu/lab-notes/parametricinsurance/>
- Wharton, Risk Management and Decision Processes Center (September 2020), Parametric Insurance for Disasters: https://riskcenter.wharton.upenn.edu/wp-content/uploads/2020/09/Parametric-Insurance-for-Disasters_Sep-2020.pdf
- Wharton, Risk Management and Decision Processes Center (September 2020), Can Parametric Microinsurance Improve the Financial Resilience of Low-Income Households in the United States? <https://riskcenter.wharton.upenn.edu/wp-content/uploads/2021/01/Proof-of-Concept-report-2020.pdf>