



Firm-level Climate Change Adaptation

Initiative in Sustainable Finance: Research Highlight

Preparing for climate risks can help companies withstand extreme events

New research shows that companies that invest in climate adaptation before extreme weather events can reduce the impact on their stock market value.

Author: **Tobias Schimanski**, PhD Candidate at the UZH Department of Finance

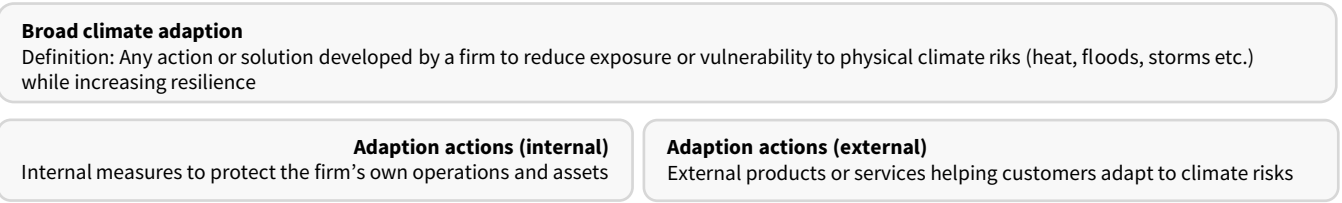


Image source: Nasa via Unsplash

Resilience at scale: The framework for corporate climate adaption

Floods, storms, heatwaves and other extreme weather events can cause significant damage to companies. But how much can businesses reduce these risks by preparing in advance? This study develops a new way of measuring firm-level climate adaptation and analyzes more than 13,500 publicly listed U.S. companies between 2003 and 2025.

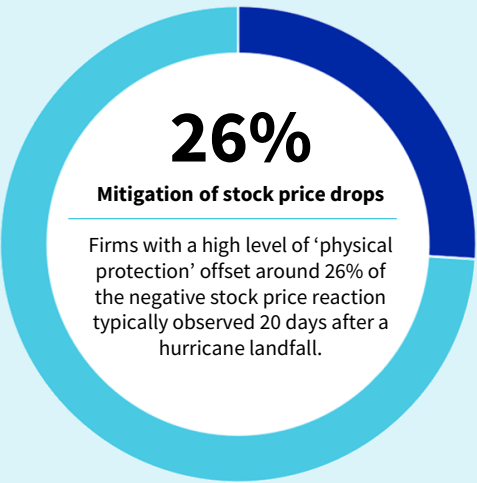
The three-step classification hierarchy:



Companies can respond to physical climate risks in different ways. The study identifies **five areas of adaptation**:



Key findings & market impact:



Credibility is a currency

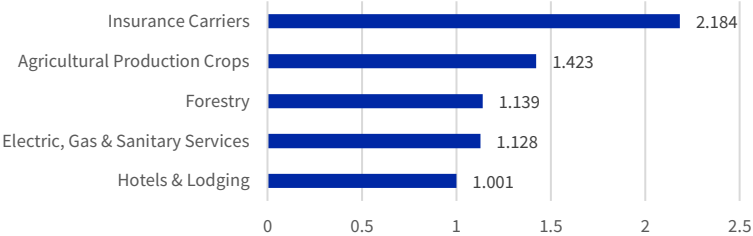
Markets price ‘physical security’, most consistently as it provides the most tangible and credible evidence of a firm’s actual preparedness.

Scaled protection for smaller firms

For smaller firms with large physical footprints, pre-event physical protection can offset up to 37% of the negative market response to hurricanes.

Top industries by average adaptation activity

(Average adaptation actions per 1,000 paragraphs, 2003–2025)



Insurance leads adaptation activity, while agriculture, forestry and other asset intensive industries also show high levels of adaptation.

The barrier: financial constraint

The „under-adaption“ gap
A one-standard-deviation increase in financial constraints is associated with a 4% to 14% reduction in overall adaption actions.

Weakened response to shocks
Following a hurricane, financially constrained firms respond with one-third less adaption activity compared to their unconstrained peers.

Amplified systemic risk
Because constrained firms cannot afford to adapt, they may play a disproportionate role in increasing systemic exonomic risk during climate events.

More information:

- Schimanski, Tobias, Firm-level Climate Change Adaptation (April 05, 2026). Available at SSRN: <https://ssrn.com/abstract=6710044> or <http://dx.doi.org/10.2139/ssrn.6710044>
- Data and Models: <https://huggingface.co/climate-adaptation>