

Stanford



Simona Meiler

Postdoctoral Scholar, Civil and Environmental Engineering

Bio

BIO

I am a weather and climate risk scientist, studying how hazard, exposure, and vulnerability interact to shape the risks and impacts of extreme weather events – both today and in a changing climate. My work combines modeling and systems thinking to explore a range of topics, including tropical cyclone risk, uncertainty and sensitivity analysis, human displacement, post-disaster recovery, and systemic risk. My approach is inherently interdisciplinary, with the goal of translating model insights into real-world applications that support climate-resilient decision-making.

I am currently a postdoctoral researcher at Stanford University, supported by an SNSF Postdoc.Mobility fellowship, working with Prof. Jack W. Baker. I completed my PhD at ETH Zurich in weather and climate risk modeling, with a focus on global tropical cyclone risk and uncertainty quantification, under the supervision of Prof. David N. Bresch.

STANFORD ADVISORS

- Jack Baker, Postdoctoral Faculty Sponsor

LINKS

- Personal research site: <https://www.simonameiler.ch/>

Teaching

COURSES

2024-25

- Topics in Disaster and Climate Risk and Resilience Research: CEE 308 (Win)

Publications

PUBLICATIONS

- **Global coastal wind hazard maps from the CHAZ tropical cyclone model.** *Scientific data*
Meiler, S., Lee, C., Camargo, S. J., Sobel, A. H.
2026
- **A natural hazard risk modelling approach to human displacement - frontiers & challenges** *ENVIRONMENTAL RESEARCH-CLIMATE*
Meiler, S., Muhlhofer, E., Luthi, S., Bresch, D. N., Ottonelli, D., Ghizzoni, T., Trasforini, E., Rudari, R., Rossi, L., Kasmalkar, I., Mohammadianab, N., Daou, D., Nguyen, et al
2025; 4 (4)

- **Beyond single company climate risk disclosure: event-based physical risk reporting** *ENVIRONMENTAL RESEARCH-CLIMATE*
Hakansson, V., Meiler, S., Hulsen, S., Villiger, L., Bossut, M., McCaughey, J. W., Kropf, C. M., Bresch, D. N.
2025; 4 (3)
- **Extreme weather event attribution predicts climate policy support across the world** *NATURE CLIMATE CHANGE*
Cologna, V., Meiler, S., Kropf, C. M., Luethi, S., Mede, N. G., Bresch, D. N., Lecuona, O., Berger, S., Besley, J., Brick, C., Joubert, M., Maibach, E. W., Mihej, et al
2025; 15 (7): 725-735
- **Mangroves and their services are at risk from tropical cyclones and sea level rise under climate change** *COMMUNICATIONS EARTH & ENVIRONMENT*
Hulsen, S., Dee, L. E., Kropf, C. M., Meiler, S., Bresch, D. N.
2025; 6 (1)