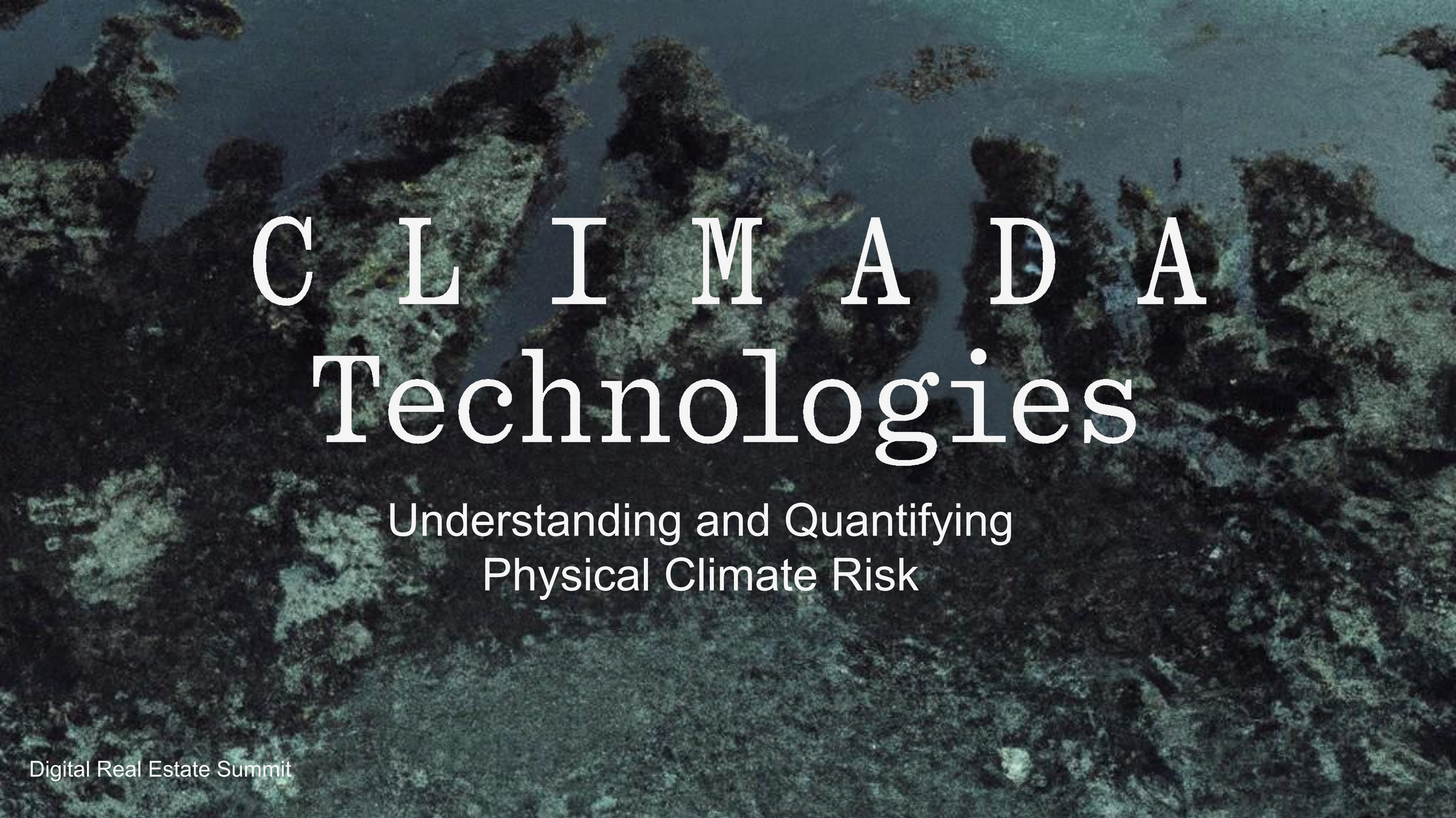


C L I M A D A Technologies

Understanding and Quantifying
Physical Climate Risk

Digital Real Estate Summit

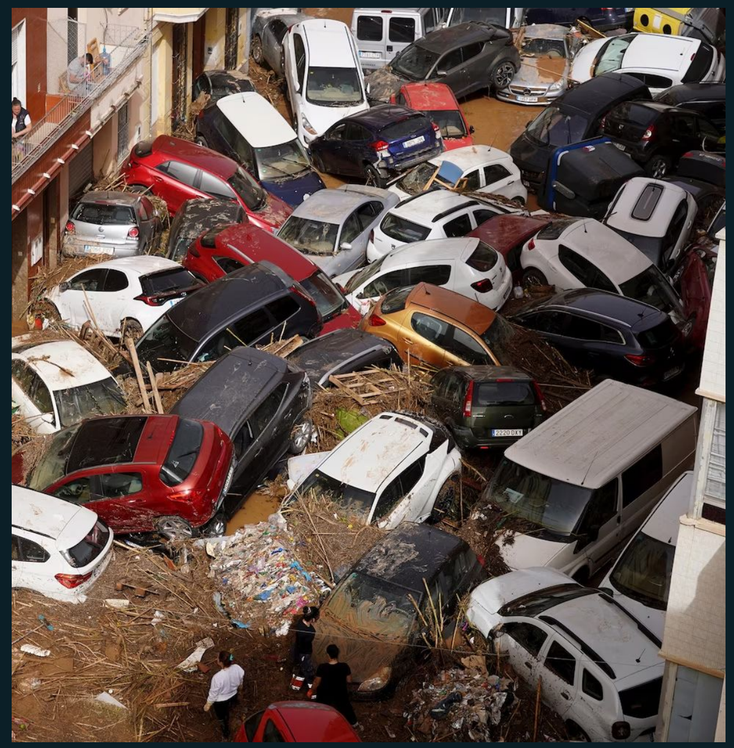
Climate Change Is Happening Now and Here

April 15th, 2024

“Böögg wird wegen **starken Winden** von Hand geköpft: Das war das Sechseläuten 2024”

June 2nd, 2024

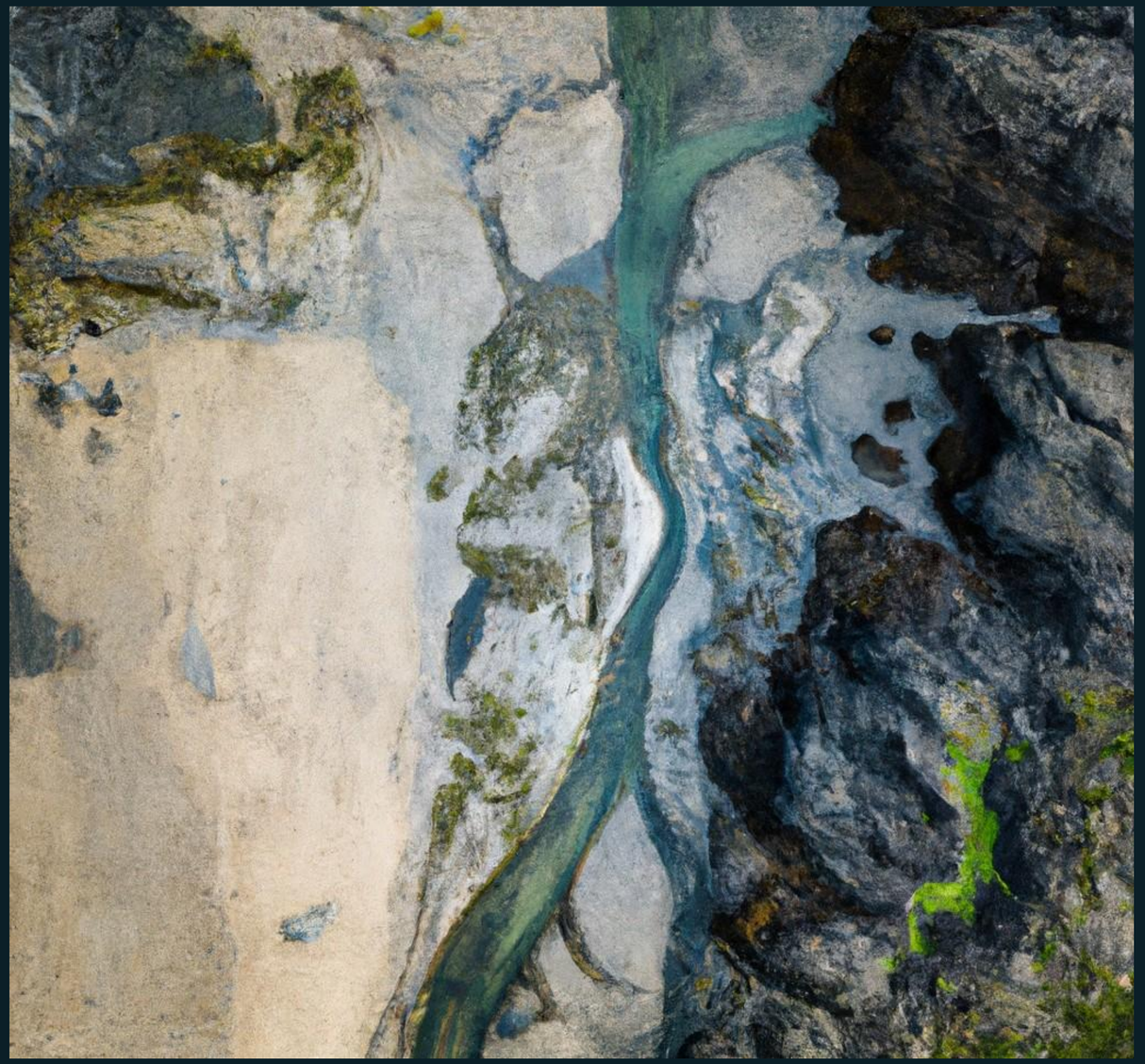
“Ein **Jahrhunderthochwasser** bedroht den Süden Deutschlands”



October 30th, 2024

“More than 200 people die in Spain due to flash floods caused by **heavy rainfall**”

CLIMADA Technologies



Who We Are

CLIMADA Technologies builds on over 10 years of extensive collaborative efforts into the open source CLIMADA platform, under constant development by the Weather & Climate Risk department at ETH Zurich.

We run a global multi-hazard model designed to calculate the socioeconomic impacts of weather and climate.

What We Do

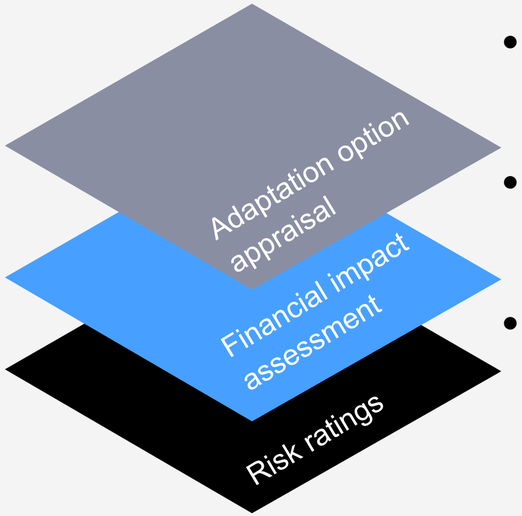
We offer defensible, transparent, science-based climate insights delivered via cutting-edge software.

- Detailed physical risk analytics spanning both direct and indirect impacts
- Robust compliant risk assessments, on portfolio and asset level
- Industry-specific financial risk metrics and scores comparable across regions and sectors

Physical Risk Exposure, Impact Quantification, Adaptation

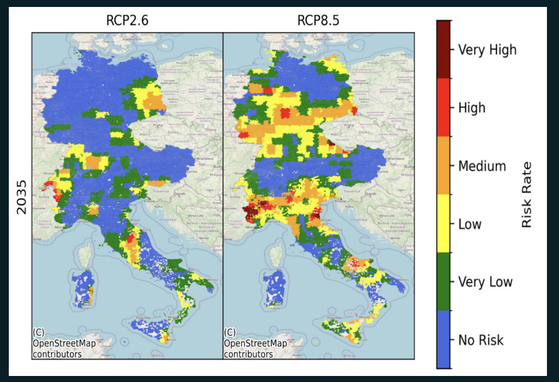
Transforming climate risk into financial impacts

CLIMADA Technologies analyses exposure data to derive physical climate **risk ratings**, **financial impacts** and based on that can suggest **adaptation measures**.
This will allow to view climate risk through three different lenses:



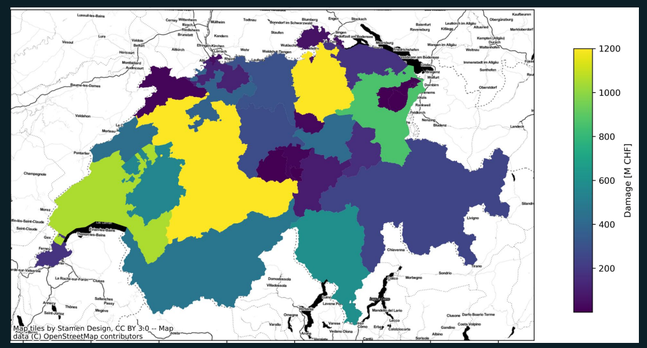
- **Adaptation option appraisal:** cost / benefit analysis for adaptation measures
- **Financial impacts** quantification for the considered acute hazards, i.e., floods and wind such expected losses
- **Risk ratings** for the most relevant hazards, i.e., floods (RCP 4.5 and 8.5), wind, heat and drought (RCP 2.6, RCP 4.5 and 8.5).

Physical climate risk ratings - example



Wind storms risk ratings at the postcode level for Italy, Germany, Switzerland and Austria were analyzed using CLIMADA Technologies proprietary software and methodology.

Financial impacts - example



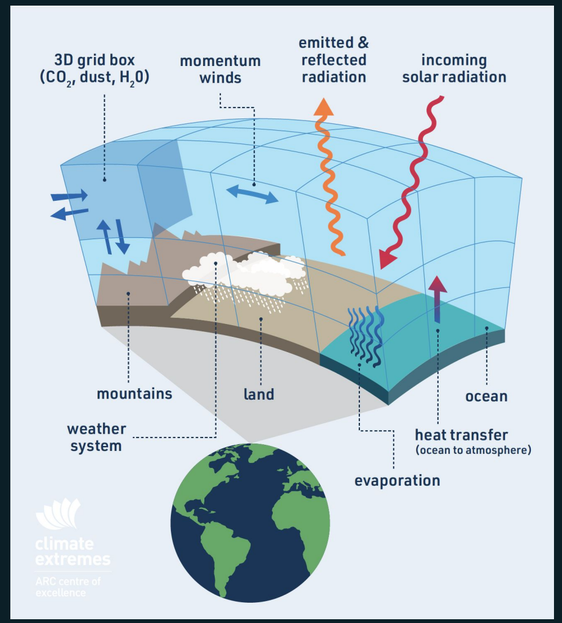
Expected flood damages within the next 10 years for each Swiss Canton were estimated based on the analysis of over 2.6 Million properties combining hazard and exposure data with state-of-the-art vulnerability functions.

Physics Based Modelling & Application Of AI & ML

Combining physics-based models with AI & ML technology for optimal climate risk results

Physics-based Models off Open-Source

Global circulation models (GCMs) are physical models required to simulate how weather/climate changes under future atmospheric conditions considering different CO2 emissions, warming degrees, land use, etc.



Application of AI & ML technology

- **Downscaling**: Using the output from physical climate models and combining them with a high-res digital terrain model to increase the spatial resolution of certain hazards. AI decides on the best downscaling approach depending on available data
- **Calibration of vulnerability functions:** Combining scientifically explored relationships between hazard intensities and impacts/damages with real impact data such as claims data from insurance companies to train the model (ML) and calibrate
- **Auto generated reporting:** Leveraging AI bots to interact with published TCFD/CSRD reports and tailored analytics output to auto-generate a regulatory aligned report template.

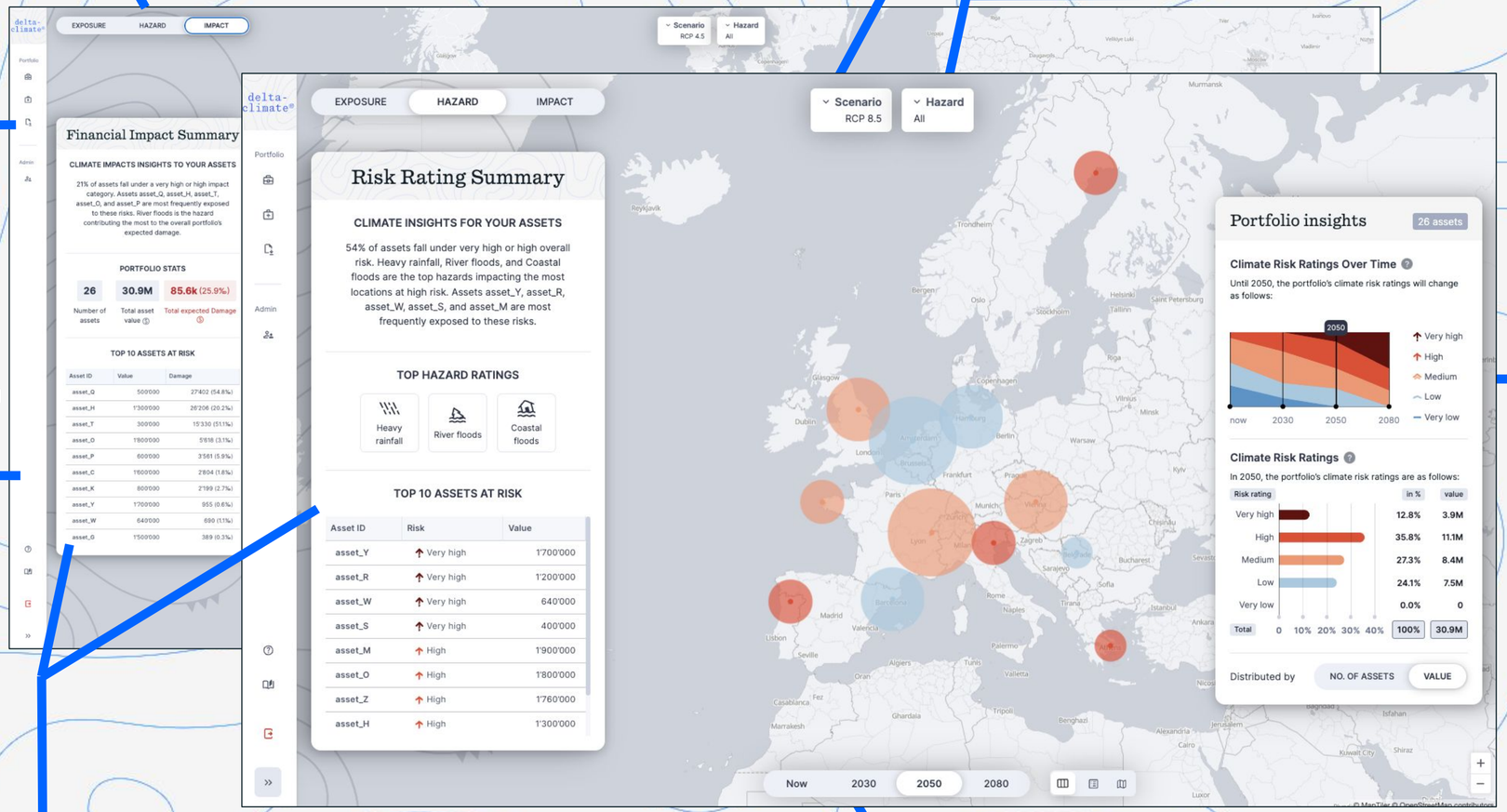
Our Platform: delta-climate™

Choose between **exposure, hazard and impact layers** to get the information you are searching for

Understand your climate risks under the most important scenarios such as RCP 2.6, RCP 4.5 and RCP 8.5

Choose to view risks from the most **impactful hazards** individually or get a combined score for your assets

Easy to navigate panel with **upload and download functionality**, **portfolio selection** and easy access to the **technical documentation**



Your **portfolio overview** with an evolution of climate risk analytics, in absolute terms as well as in financial terms, and a detailed graph of the **distribution of your assets** risk categories

A curated overview of your portfolio's highlights with the **most important information** in a nutshell

Switch effortlessly between **today, 2030, 2050 and 2080.**

Our Data: delta-climate™ API

Core Data Attributes

- **100+ physical climate risk metrics** to support diverse industries from manufacturing, to finance, to agriculture and real estate
- **Coverage** of all **28 CSRD-required physical climate risks** for full compliance
- **Baseline + 3 climate scenarios** (SSP1-2.6, SSP2-4.5, SSP5-8.5)
- Climate projections spanning **2025 to 2080** in **5-year intervals**, providing insights into **short-, medium-, and long-term risks**.

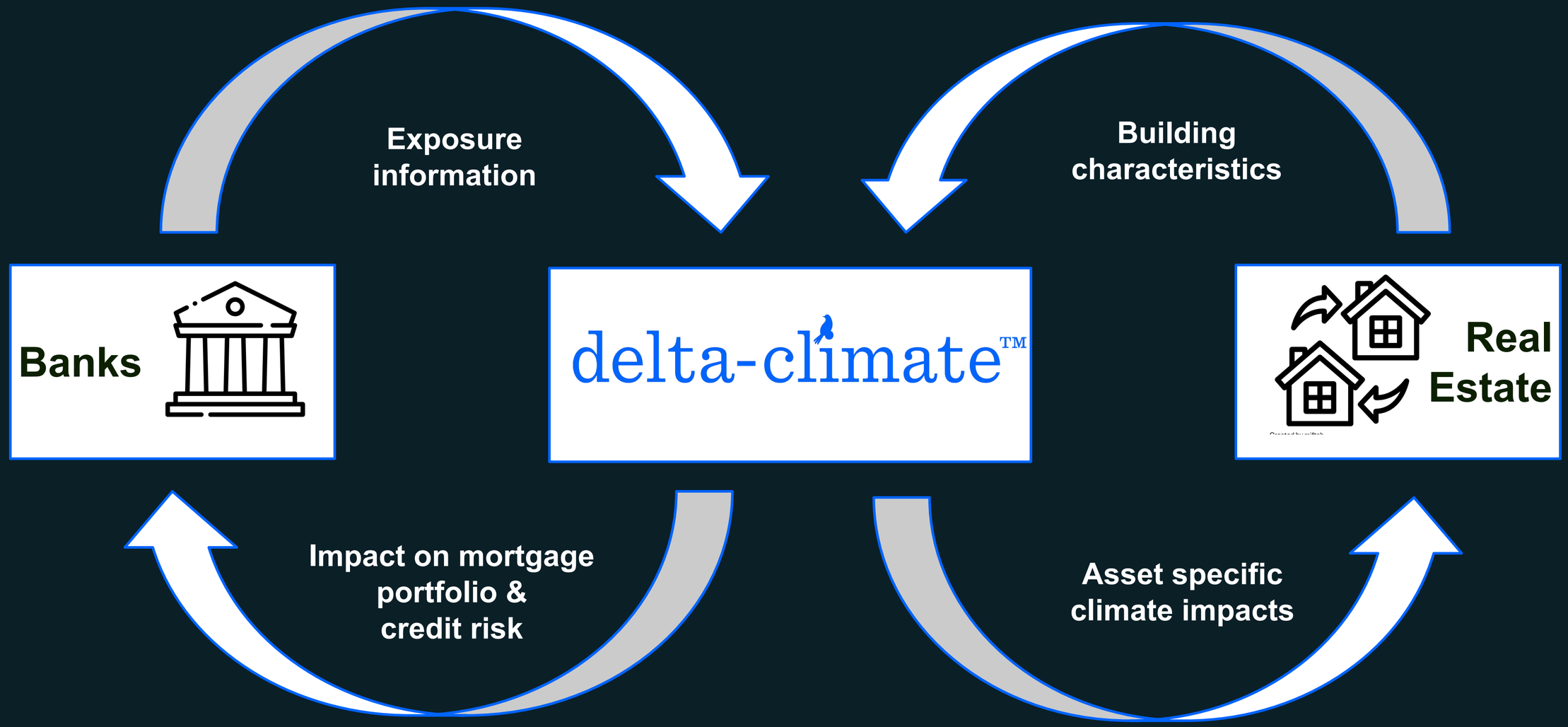
Key Features

- **Global climate risk analytics** with resolutions from **25 km to 90 m** ensuring high accuracy anywhere globally
- **Comprehensive hazard insights**—access climate indicators values
- **Granular risk ratings**—evaluate individual or combined risk scores for a holistic view
- **Financial impact assessment**—analyze **average & extreme losses** and **value-at-risk** for key hazards

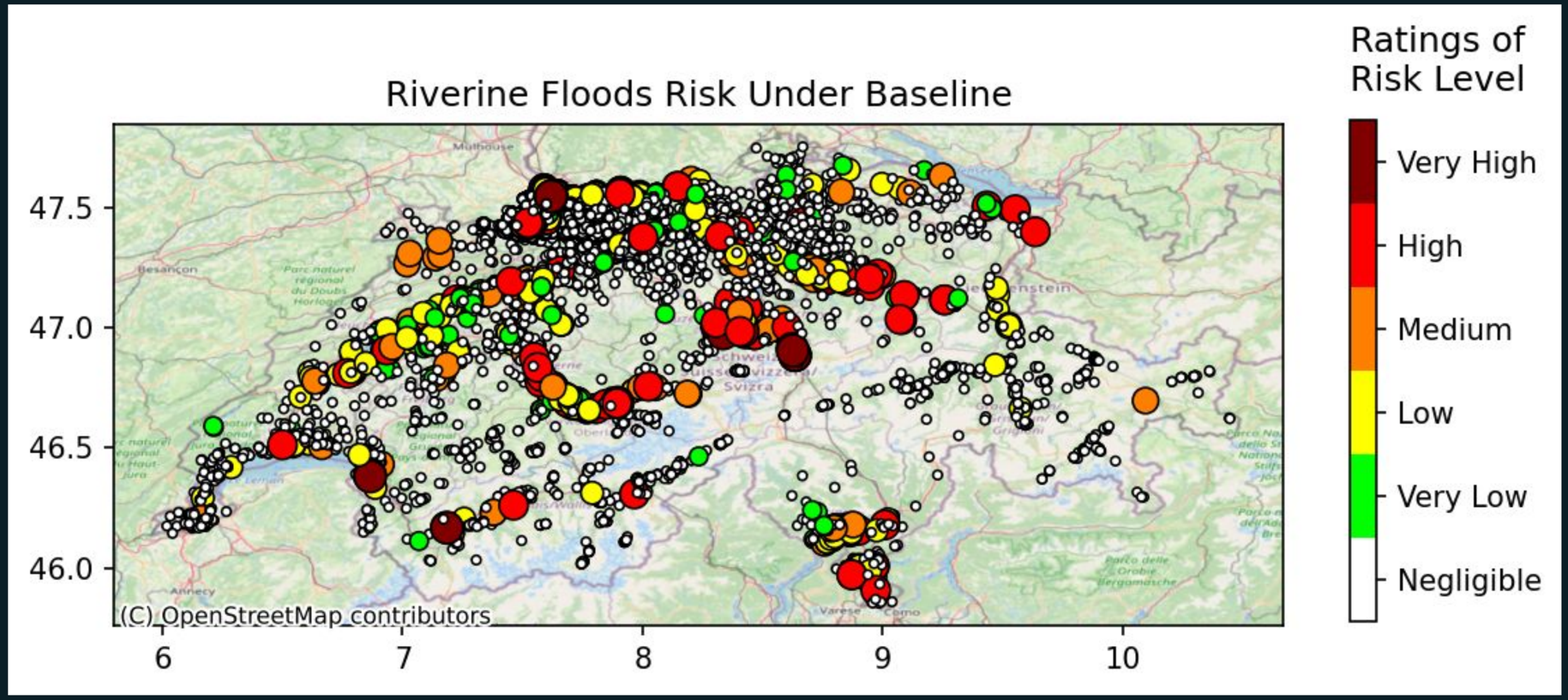
Use Cases

- **Seamless ESG platform integration** for **sustainability risk** analysis
- **Smooth embedding** into ERP systems used by **banks**, **private equity** companies, and **asset managers**
- Ensure **CSRD compliance**, assess & mitigate asset risks, and implement **tailored bespoke solutions**
- Leverage high-resolution climate projections to **optimize risk strategies** and **long-term investments**

Data Augmentation Ecosystem

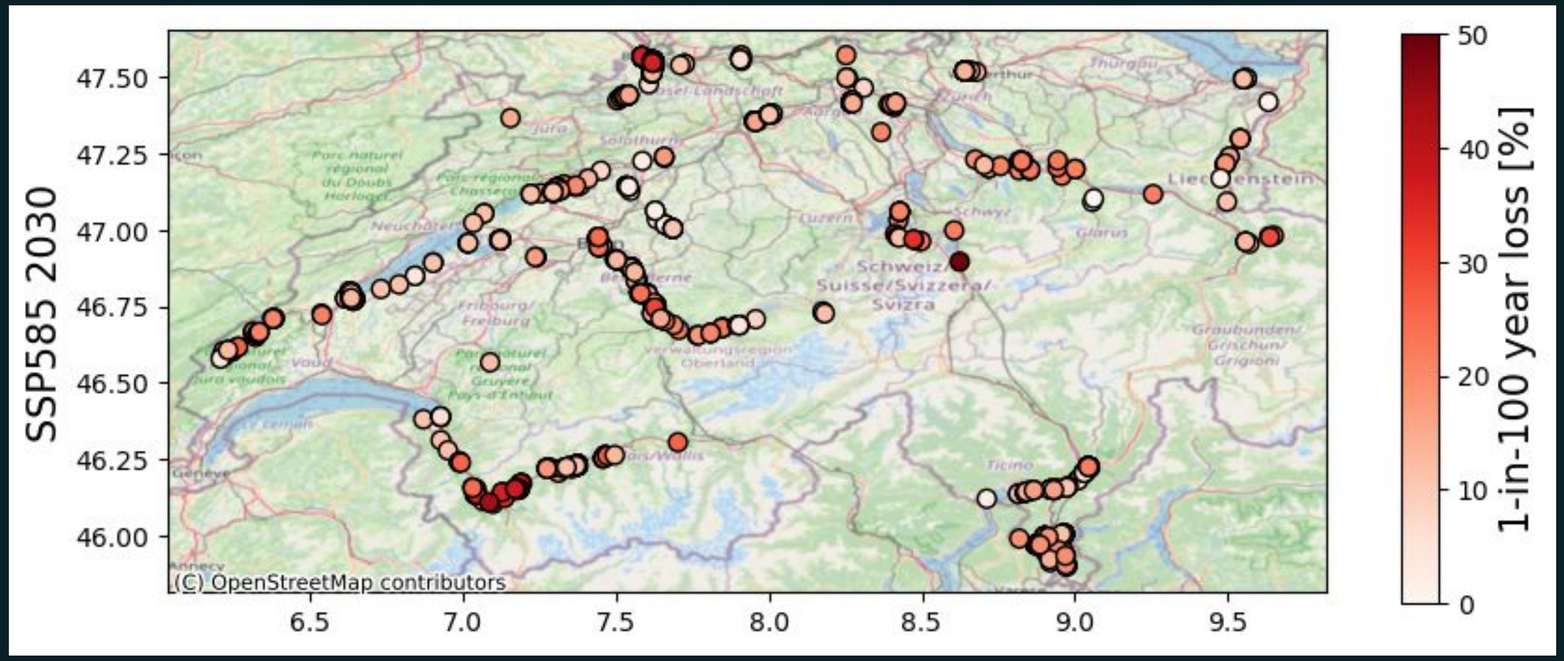


Case Example: Swiss Mortgage Book Analysis



- Exposure of over 30’000 buildings to riverine flooding of a Swiss bank
- Scenario of RCP85 in 2050
- Basis for understanding financial impacts on portfolio

Swiss Mortgage Book Analysis: Direct impacts



- Direct impacts are representing expected damages for a selection of buildings
- The figure presents the 1-in-100-year impact under SSP585 scenario for 2030.
- Impact accounts for the presence of flood protection measures.
- Impacts vary significantly across assets, with some reaching up to **50% of the insured asset value.**

Board And Management

Prof. Dr. David N. Bresch

FOUNDER & CHAIRMAN

SENIOR SCIENTIFIC ADVISOR

Professor for Weather and Climate Risks at ETH Zürich/MeteoSwiss since 2016. Priorly, at Swiss Re Head Business Development, Global Head Sustainability, Head Atmospheric Perils Group and Chief modeler for natural catastrophe risk assessment.

“I invented CLIMADA to explore ways to strengthen resilience based on a shared understanding of weather and climate susceptibility. The integrated view opens new perspectives in the treatment of uncertainty in decision-making.”

Sebastian Glink

FOUNDER & CO-CEO

RESPONSIBLE FOR PRODUCT DEVELOPMENT & TECHNOLOGY

Background in Meteorology, Geophysics, Business Intelligence & Big Data Analytics; more than 10 years of experience in building scalable technology solutions in insurance, reinsurance and retail industry.

“Weather & Climate was always my passion. CLIMADA Technologies provides me the opportunity to quantify the impact of climate change and help organizations to become more resilient.”

Simone Thompson

FOUNDER & CO-CEO

RESPONSIBLE FOR BUSINESS DEVELOPMENT & SALES

20 years in international blue chip organisations spanning finance, marketing, project management, branding, sales and communications capabilities. Active member of a number of strategic advisory boards.
Kellogg University, Harvard, LSE, Insead Alumni, IMD.

“It is through anticipation we gain an understanding and, with that, a greater control to render a potentially threatening situation one of opportunity.”

Our Core Team

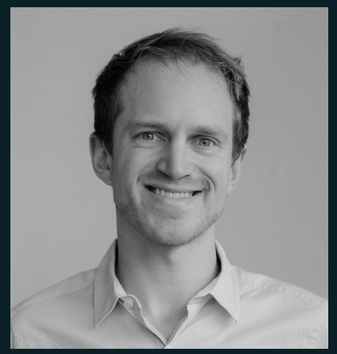
Dr. Benoit Guillod
CHIEF TECHNOLOGY OFFICER

Dr. Alessio Ciullo
HEAD CLIMATE RISK ANALYTICS

Alvaro Pacheco
HEAD BUSINESS DEVELOPMENT

Dr. Jere Lehtomaa
CLIMATE RISK ENGINEER

Dr. Quentin Bourgeois
CLIMATE RISK SCIENTIST



Dr. Lukas Bodenmann
CLIMATE RISK ENGINEER

Contact

www.climada.tech

Simone Thompson: simone@climada.tech

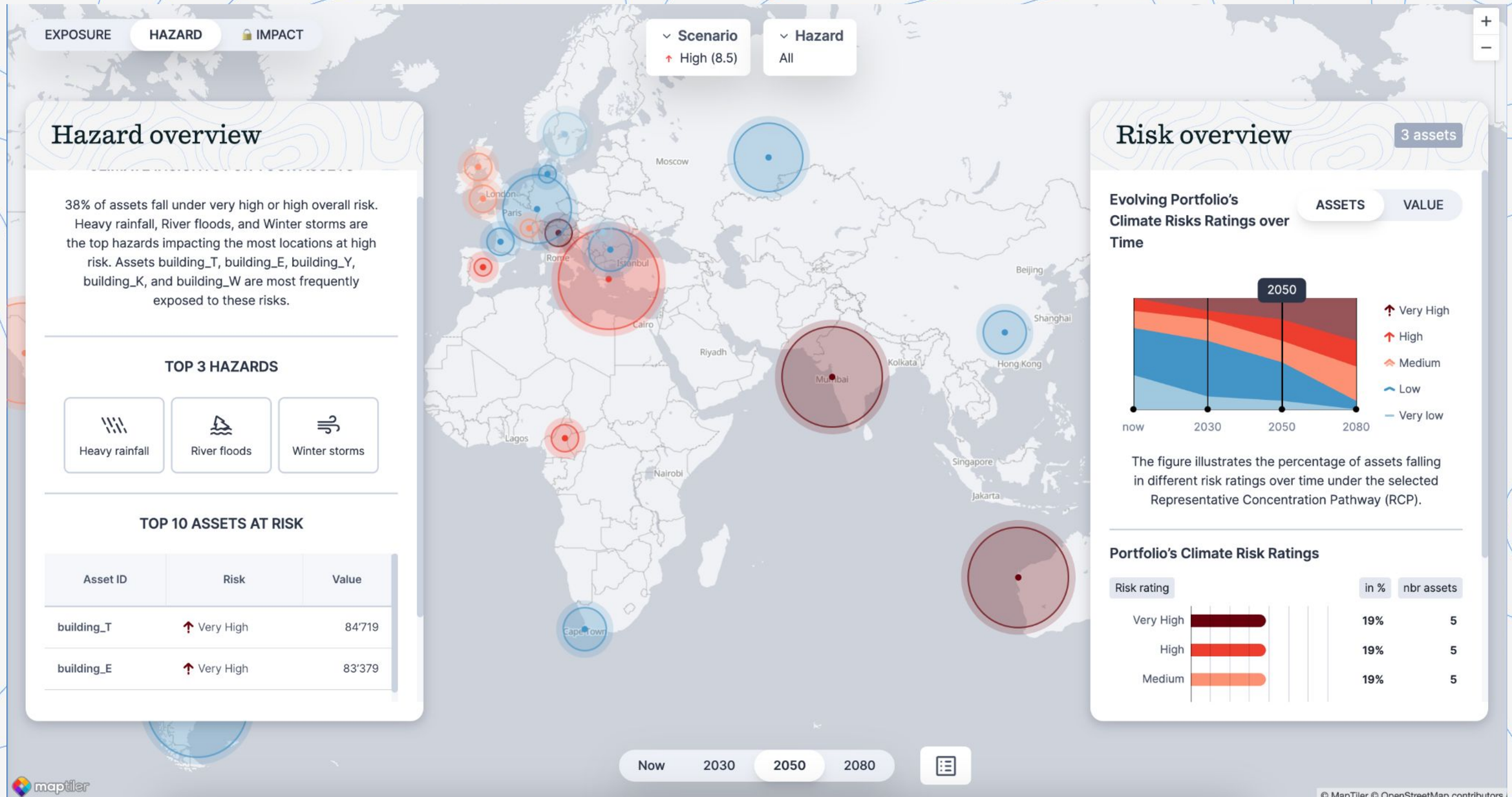
Sebastian Glink: sebastian@climada.tech

Alvaro Pacheco: alvaro@climada.tech

Collaboration is key.
We look forward to hearing from you.

contact@climada.tech

SAAS Solution: delta-climate™



SAAS Solution: delta-climate™

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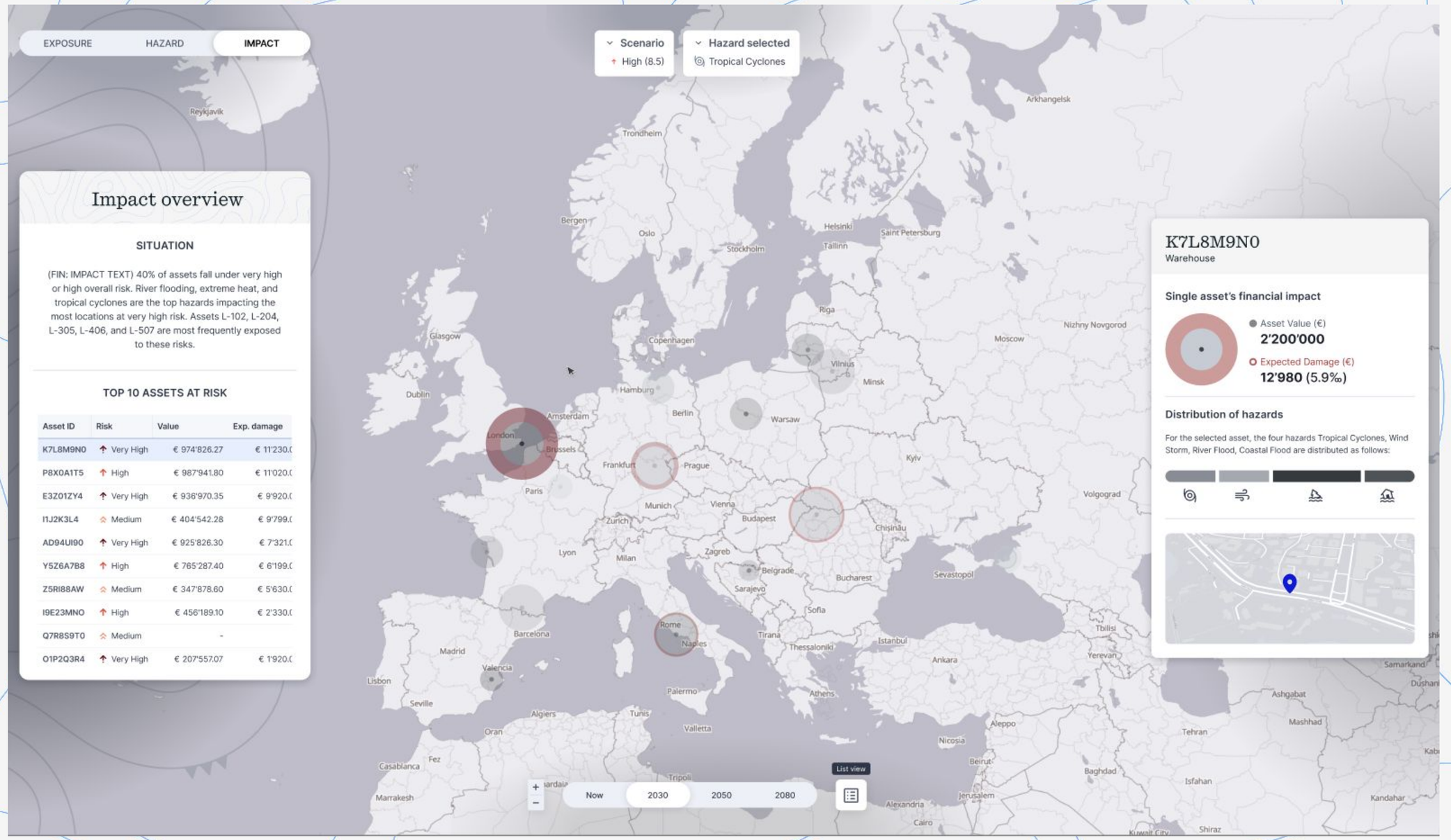

Key Points Of Differentiation

Open Source Peer Reviewed Technology

In a world where litigation for climate related matters is on the increase and green hushing is becoming the norm, we believe that embedding open code at the core of our technology will lead to the required levels of transparency needed for good market disclosure practices

Consistent Values

There are models which focus on defined regions, and models which focus on selective perils. Our model chooses to provide globally consistent values across all geographies and perils so that our clients can compare what is happening climatically in any given region along any given time horizon

Probabilistic Modelling

Given the future is uncertain, we have opted for a quantitative modelling approach that marries a large set of possible outcomes reaching beyond past experiences - with new circumstances. The outcome is a more refined account of possible events and impacts

Adaptive Architecture

Given the speed of change and inherent complexity of the climate-related regulatory landscape, we see software which embraces and reflects the highest levels of adaptability as best positioned to take on the unpredictable movements of future legislative and consumer demands and requirements

Overview Across All EU CSRD Hazards

	Temperature-related	Wind-related	Water-related	Solid mass-related
Chronic	Changing temperature (air, freshwater, marine water)	Changing wind patterns	Changing precipitation patterns and types (rain, hail, snow / ice)	Coastal erosion
	Heat Stress		Precipitation or hydrological variability	Soil degradation
	Temperature Variability		Ocean acidification	Soil erosion
	Permafrost Thawing		Saline intrusion	Solifluction
			Sea level rise	
			Water stress	
Acute	Heat wave	Cyclone, hurricane, typhoon	Drought	Avalanche
	Cold wave / frost	Storm (including blizzards, dust and sandstorm)	Heavy precipitation (rain, hail, snow / ice)	Landslide
	Wildfire	Tornado	Flood (coastal, fluvial, pluvial, ground water)	Subsidence
			Glacial lake outburst	