

FAME

Pilot 6: Climate-Aware Risk Analytics for Financial Institutions

Partners Involved



Research institute specialising in advanced statistical modelling, climate science, and environmental risk analytics.

Pilot 6 demonstrates how FAME can enable financial institutions to access, process and use scientifically robust climate projections to quantify future climate-related risks. While raw climate data is publicly available, it is **not directly usable** for finance: it is biased, coarse in resolution, and requires specialist post-processing.

This pilot develops a **Climate Projection Engine**, delivering downscaled, bias-corrected, localised indicators that financial analysts can immediately apply to risk assessments.

Three use cases illustrate its application: estimating climate effects on real-estate pricing, analysing value-at-risk for insurance portfolios, and constructing climate-aware investment portfolios using sentiment-derived climate factors.

Key Benefits

Reliable, localised climate projections processed from raw global climate models into finance-ready indicators (e.g., extreme heat days, windstorm loss indices).

Faster, lower-cost climate risk assessments, reducing the need for internal climate-science expertise and bespoke modelling.

Support for regulatory compliance, helping banks and insurers meet emerging climate-risk reporting requirements.

Portfolio-level climate insight, including exposure to climate sentiment trends relevant for investment behaviour.

User Groups

Banks & credit institutions: Required to incorporate climate risk into credit risk, mortgage valuations and regulatory reporting.

Insurance & reinsurance firms: Need climate-linked hazard projections (heat, storms) to evaluate long-term exposure and portfolio value-at-risk.

Investment managers & analysts: Integrate climate sentiment or hazard metrics into factor models and portfolio construction.

Regulators & policy research institutes: Assess systemic climate risk and evaluate exposures across regions or sectors.

FAME ecosystem users: Combine climate datasets with financial models, analytics services and portfolio-level tools.

FAME Technologies Being Used



FAME Analytical Tools & modelling infrastructure: Supports factor modelling, portfolio analytics and on-platform statistical processing.



FAME Federated Data Marketplace
Publishes climate projection products as downloadable data assets.

Main Data Assets Created

Heat-day projection dataset: Downscaled, bias-corrected indicators of extreme heat for localised regions.

Windstorm damage projection dataset: Regional projections of storm-related losses derived from climate models.

Climate Sentiment Index: Topic-model-based index derived from news archives, capturing temporal shifts in climate-related investor sentiment.

How It Can Be Used

Financial organisations can download climate datasets from the FAME Marketplace to:

- Quantify **future real-estate value risks** due to changing heat patterns.
- Assess **portfolio exposure** to climate-sensitive hazards or event-driven volatility.
- Integrate climate sentiment factors into **investment models** to build climate-aware portfolios.
- Conduct exploratory climate-risk analysis without specialised climate-model expertise.



Funded by
the European Union

The FAME project has received funding from the European Union's Horizon 2023 Research and Innovation Programme under grant agreement No. 101092639. Funded by the European Union. Views and opinions expressed are however those of the author(s) only and do not necessarily reflect those of the European Union or Horizon Europe. Neither the European Union nor the granting authority can be held responsible for them.