



XL Insurance

Climate X Data

Climate data – what's the target?

Andy MacFarlane | Head of Climate, AXA XL | 28th April 2023

About AXA & me



XL Insurance
Reinsurance

Head of Climate = ACTUARY

- What is an actuary?
- Why an actuary?
- What is the link to data?

Problem Statement



What about insurance?

- claims data, modelling data, finance data

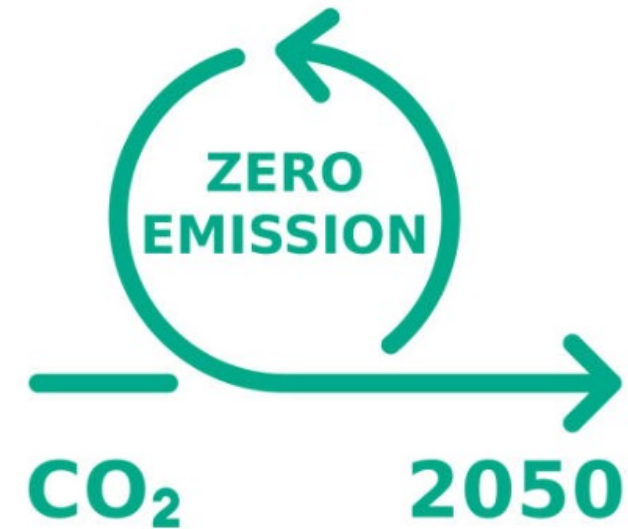
Although the volume of data is sizeable – when it comes to climate data, the quality and availability of data is poor

What is climate data in the context of insurance?

PHYSICAL RISK

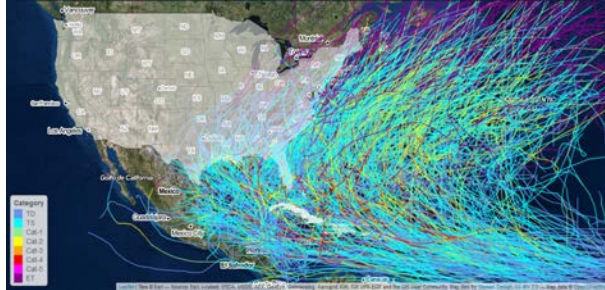


TRANSITION RISK



Physical Risk – Catastrophe & Pricing Models

HAZARD



EXPOSURE


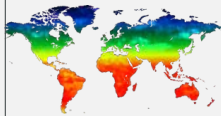



VULNERABILITY



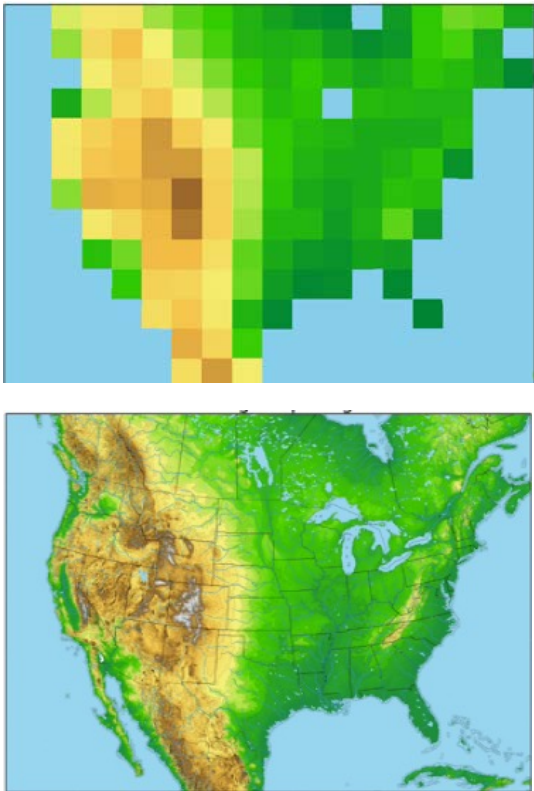
[Disastersafety.org](https://disastersafety.org)

Physical Risk – What about the future?

| | Numerical Weather Prediction | Global Climate Model | Catastrophe Models | Pricing Models |
|-------------------|--|---|---|---|
| |  |  | $\text{Risk} = f(\text{H}, \text{E}, \text{V})$ |  |
| Purpose | Predicted weather | Predicted climate | Model risk for catastrophes | Price risk |
| Timescale | Days to weeks in advance | Years to decades in future | Based on policy length, but typically annual | Based on policy length, but typically annual |
| Resolution | High-resolution (5-10KM) | Low resolution (25-100KM) | High-resolution (geocoding) | High-resolution (geocoding) |

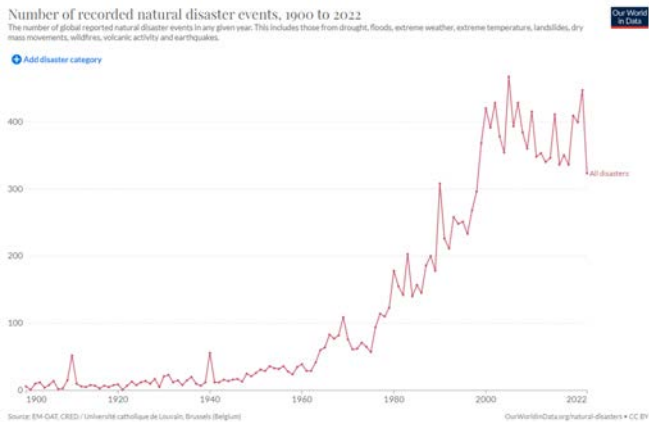
Physical Risk – so what’s the problem?

Modelling Resolution Climate Change



Courtesy of James Done

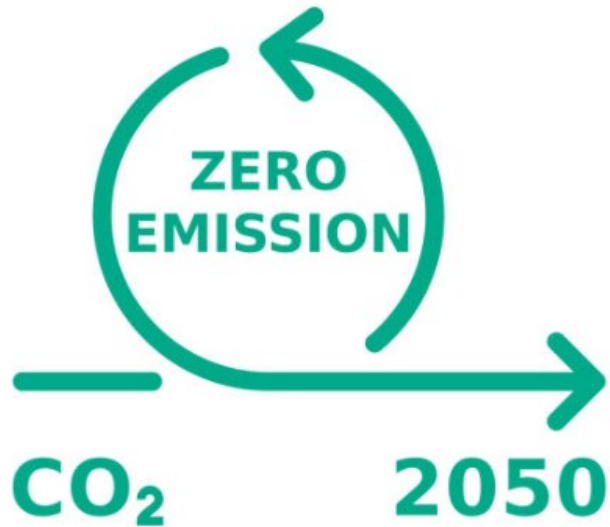
Data Coverage & Sampling Bias



Uncertainty

| | |
|---------------|---------------------------------------|
| Hazards | Natural variability vs climate change |
| | System Response |
| | Tools |
| Exposure | Societal response |
| Vulnerability | Societal response |

Transition Risk



REGULATORY REPORTING

MULTIPLE DATA PROVIDERS

COVERAGE

So, what is the target for climate data?

...to improve our understanding of the physical environment and the impacts on the climate

PHYSICAL RISK

- Improved coverage and availability (historical & geographic)
- Better resolution for forward looking projections
- Consider all parts of the risk equation
- Consideration of systems modelling
- Improved consensus on the science
- Improve our understanding of uncertainty around responses

TRANSITION RISK

- More consistency around disclosure requirements globally
- Improved coverage of information across all clients across all countries

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Know You Can