

A changing risk
landscape –
How can we quantify?

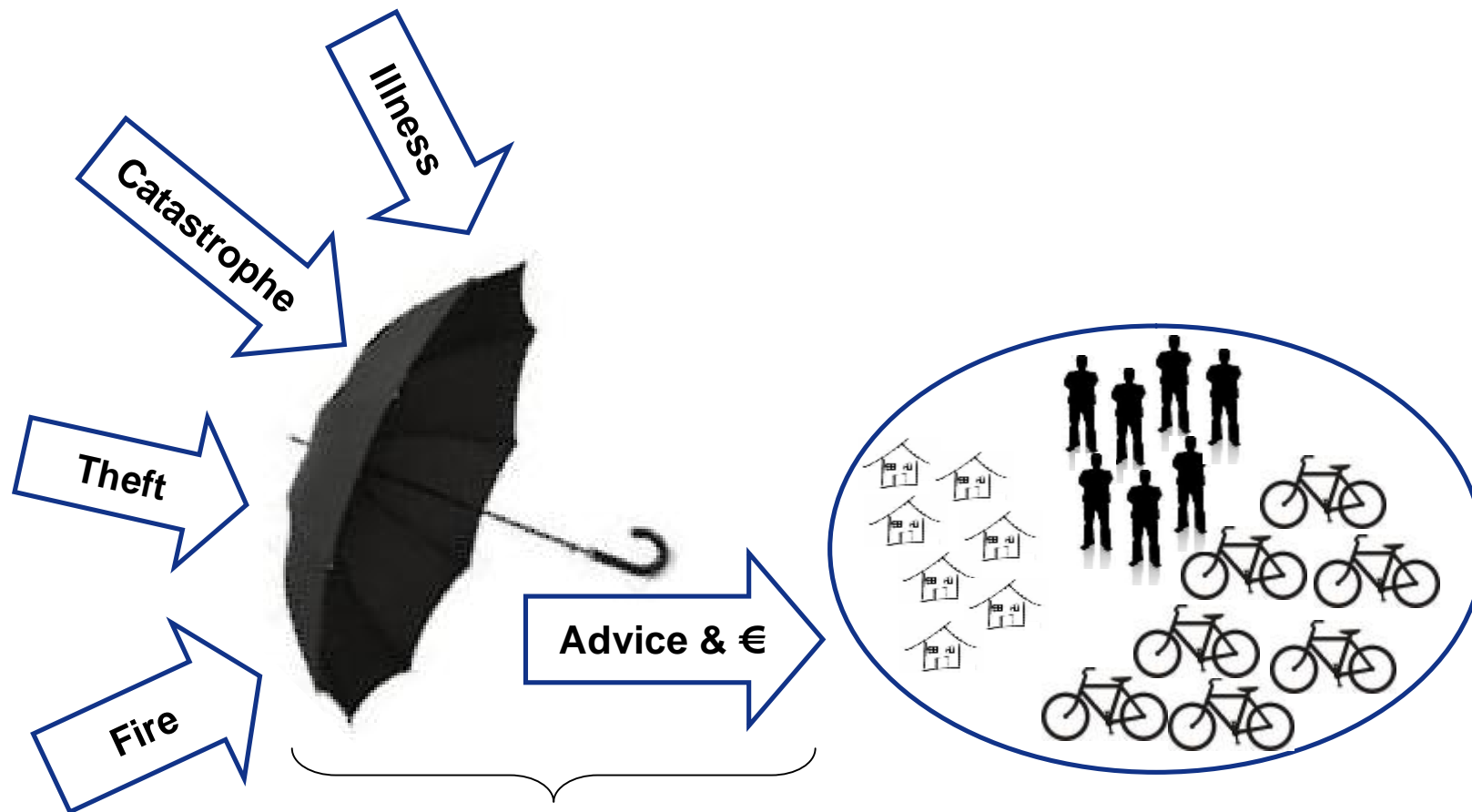
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EMS 2011 – Sept 12th 2011 Berlin



Agenda

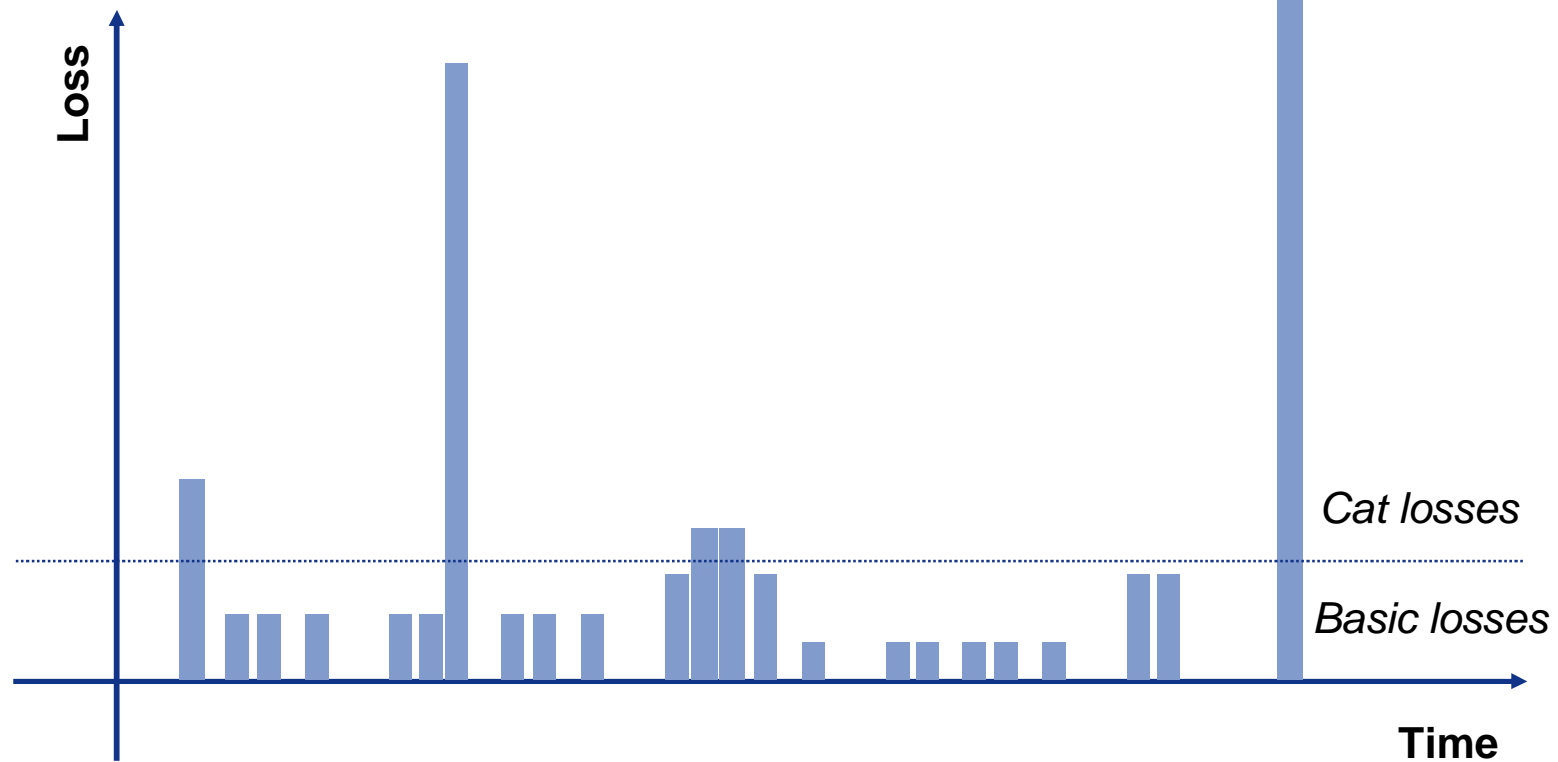
- 1** What an insurance company is doing
- 2** How adequate premium is determined
- 3** A changing risk landscape
- 4** Living the uncertainty
- 5** Conclusion

What an insurance company is doing – Some basic principles to start with



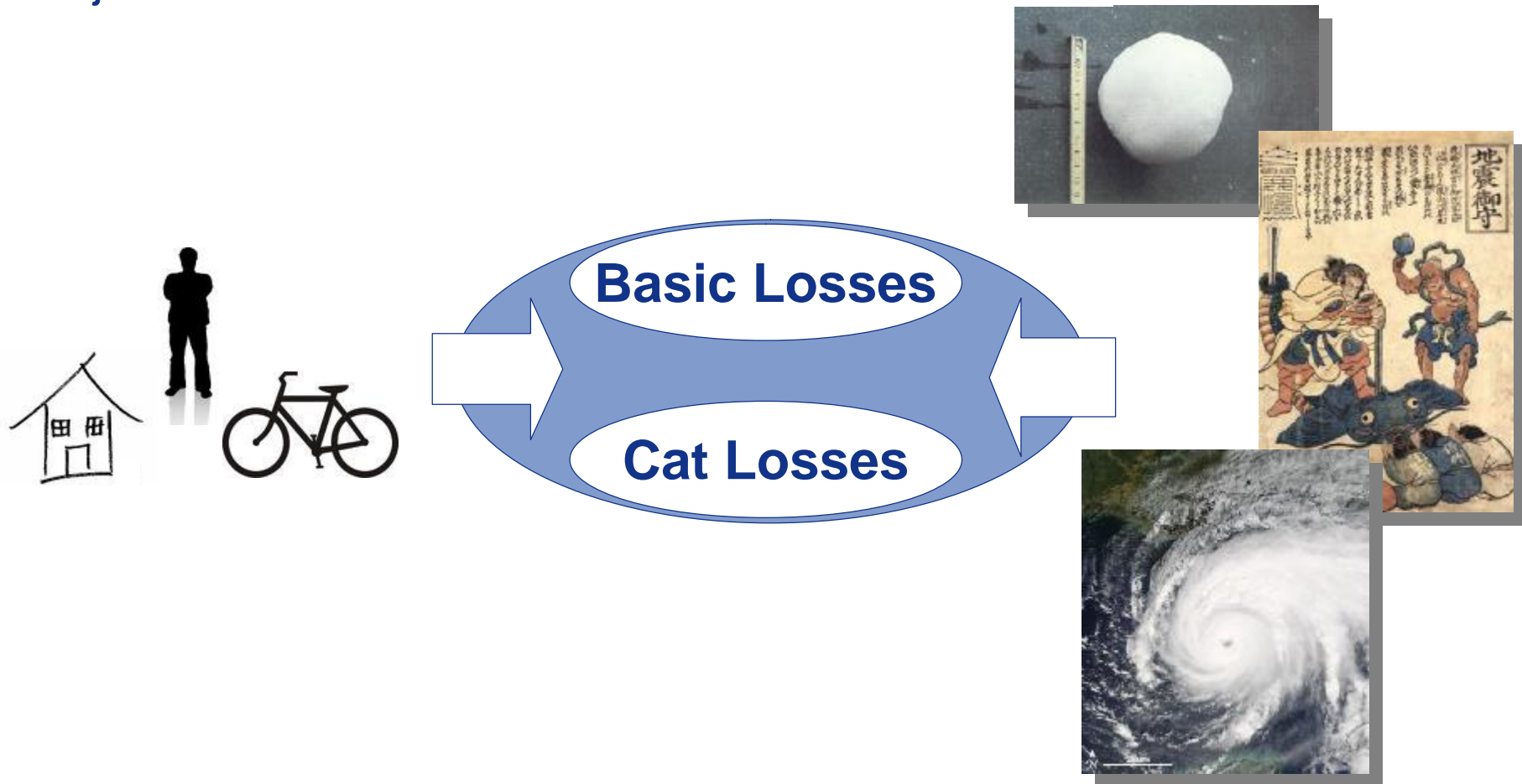
Your annual premium = your annual expected loss

How adequate premium is calculated – Loss pattern over time



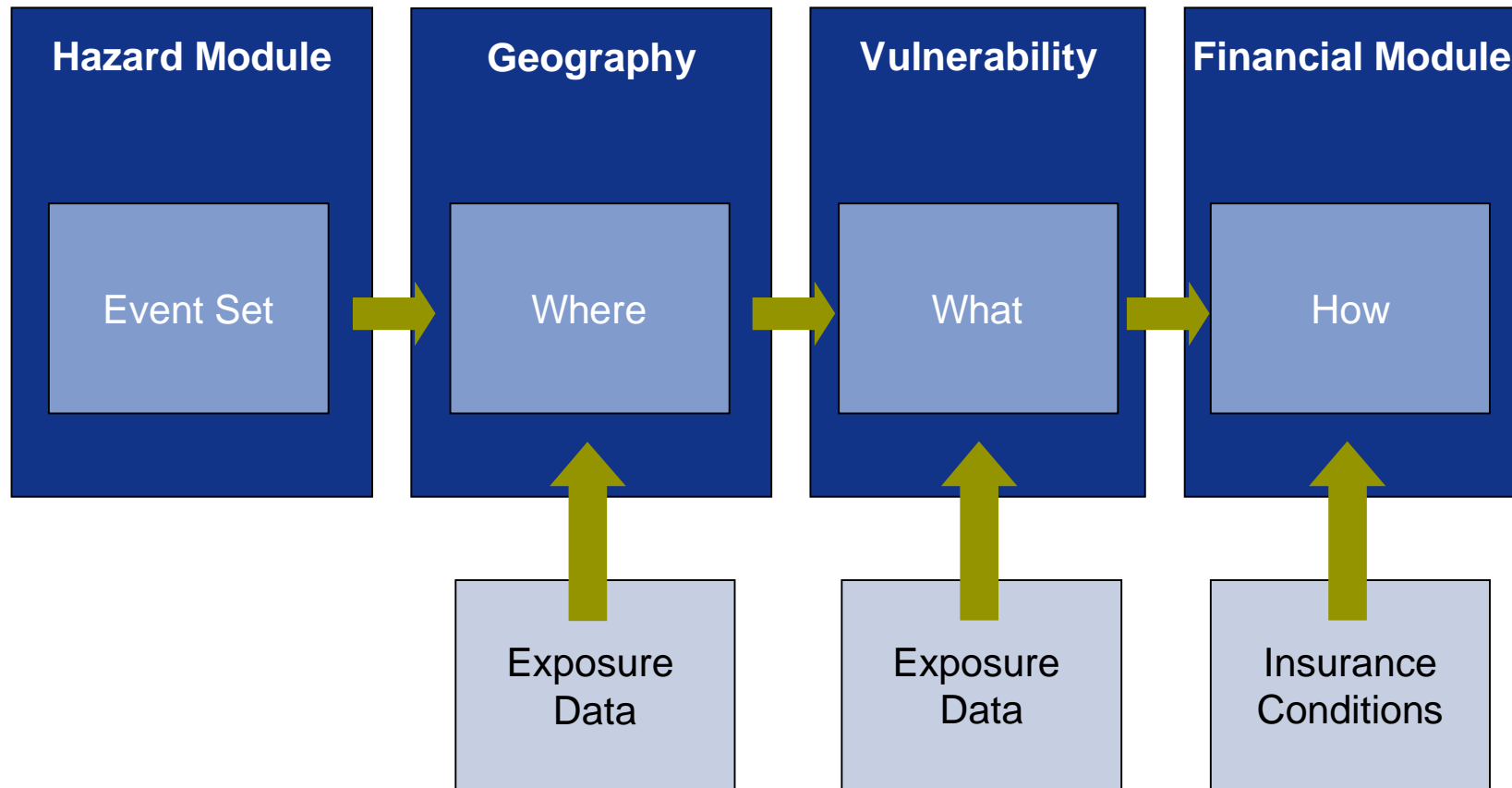
Ultimate goal: calculate adequate and sustainable premium

How adequate premium is calculated – Major loss drivers



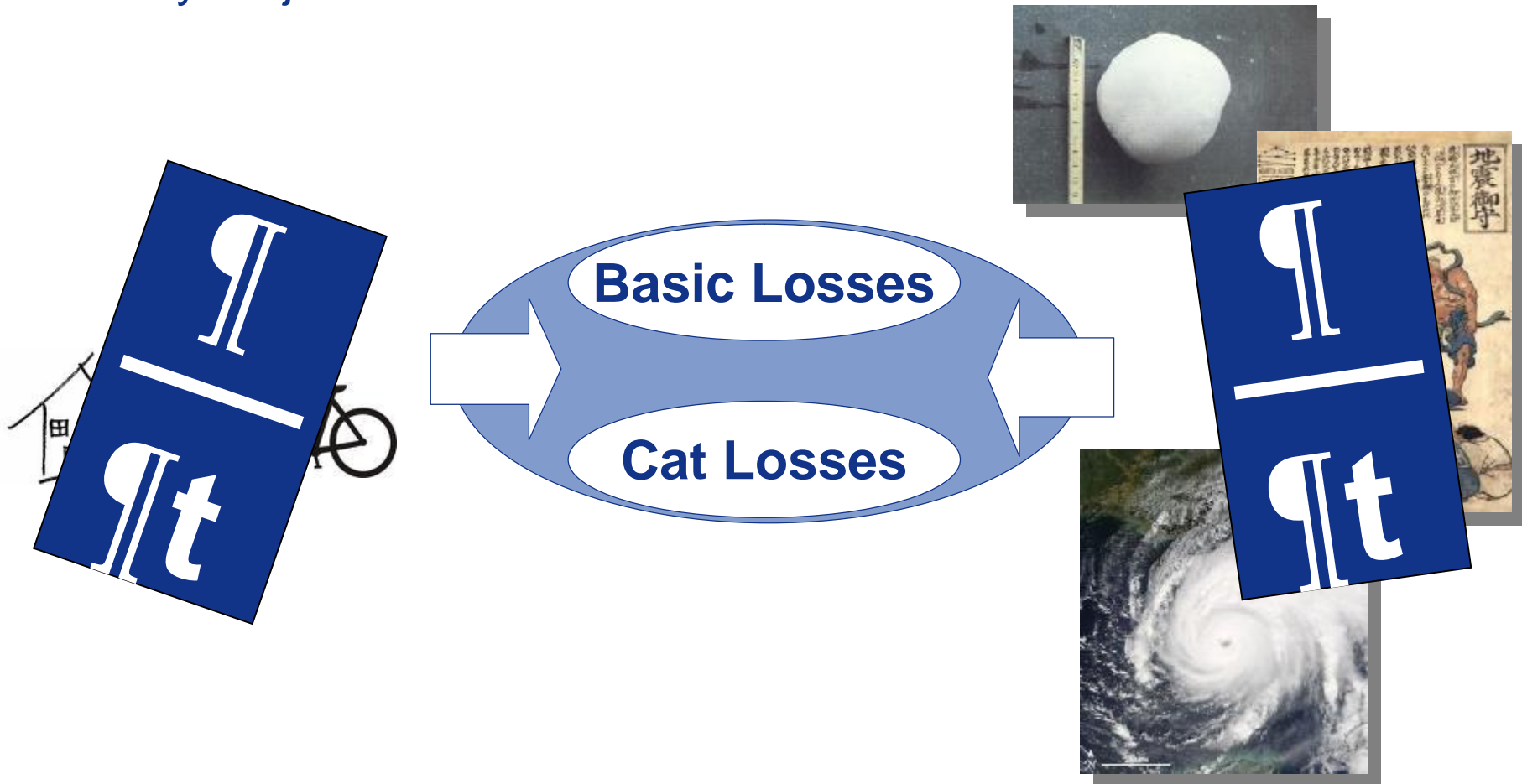
Two major drivers: Portfolio and environment

How adequate premium is calculated – Probabilistic models can help



What about change?

A changing risk landscape – How my major drivers behave



Change over time challenges sustainability

A changing risk landscape – Portfolio over time



Ocean Drive, FL, 1926.

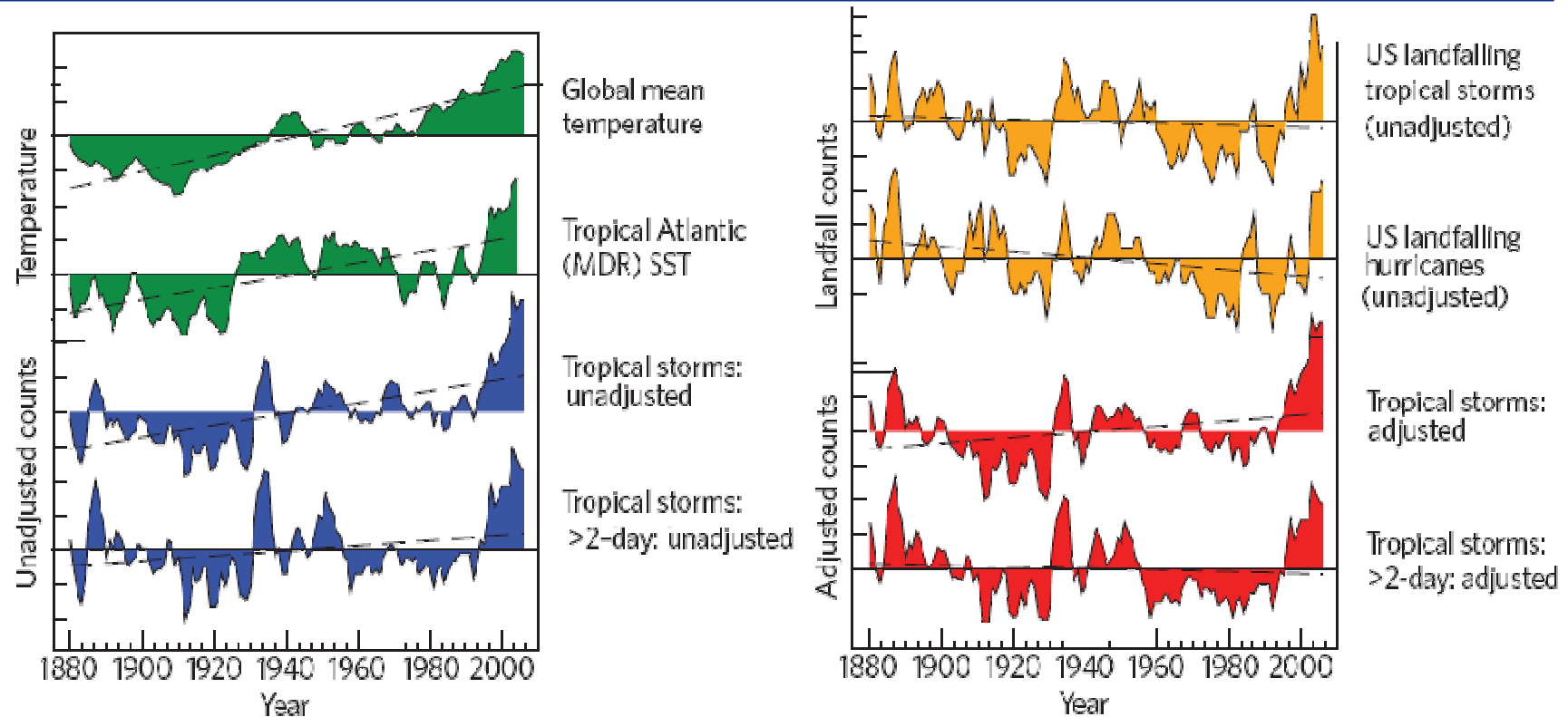


Ocean Drive, FL, 2000.

▶ Ultimate goal and difficulty – Capture adequate information

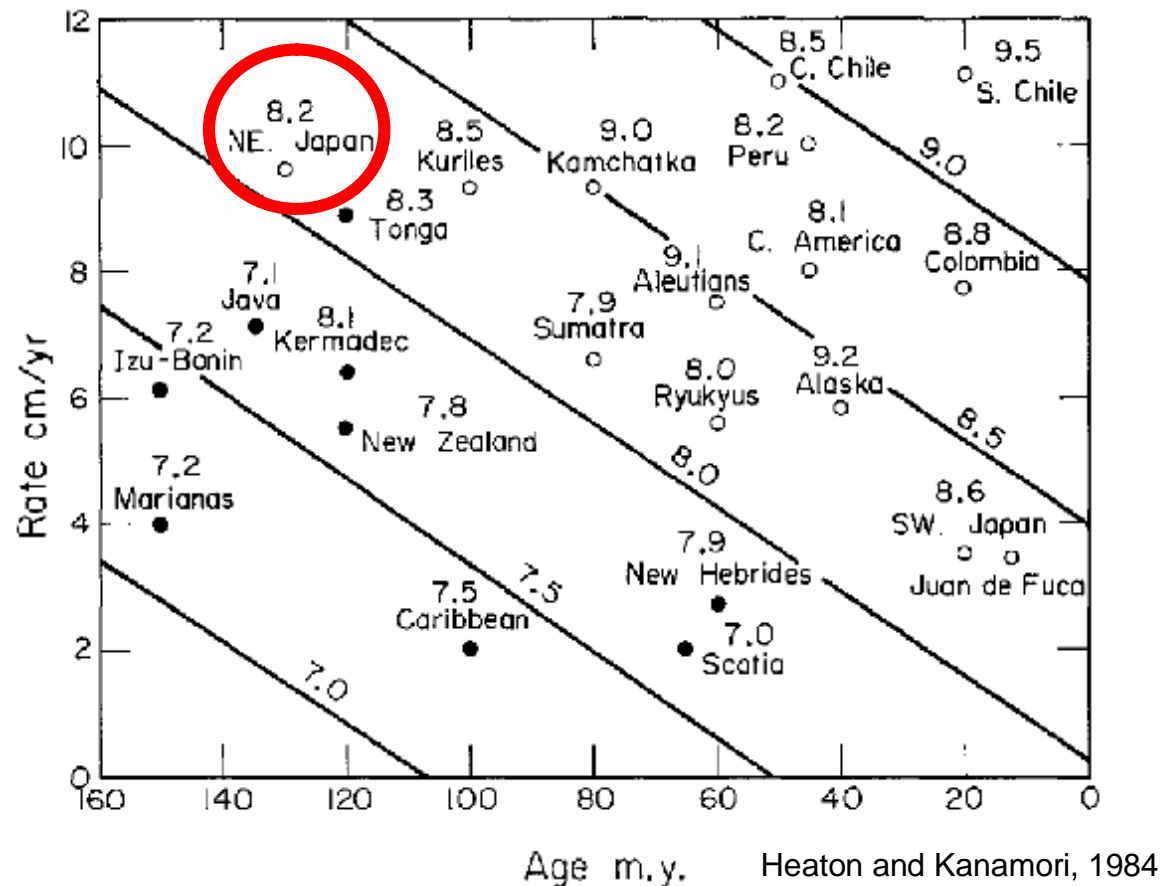
A changing risk landscape – Environment over time (Climate change)

Time series of temperature, tropical storms and hurricanes



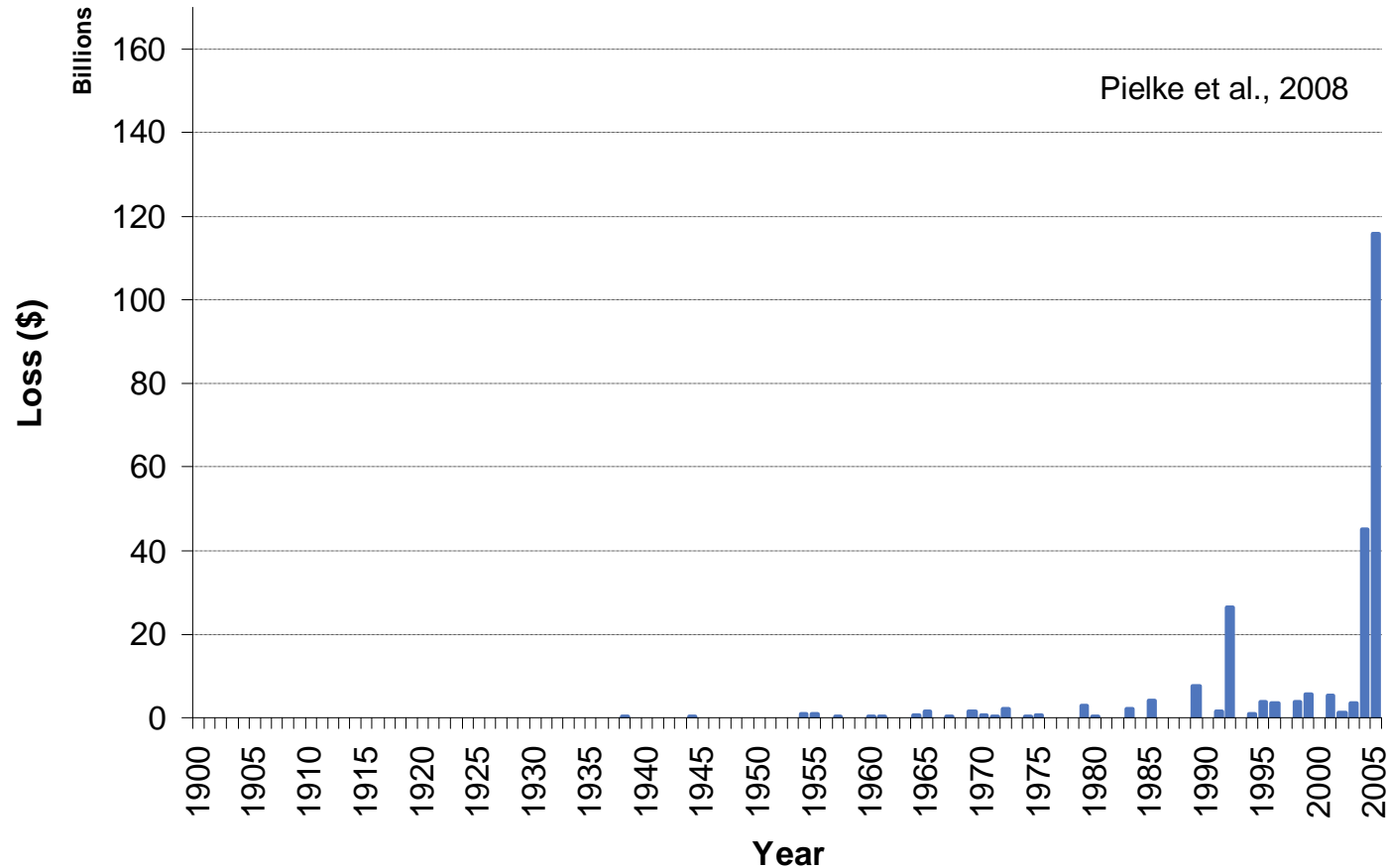
Climate change – Split natural pattern from trend

A changing risk landscape – Environment over time (Changing knowledge I)



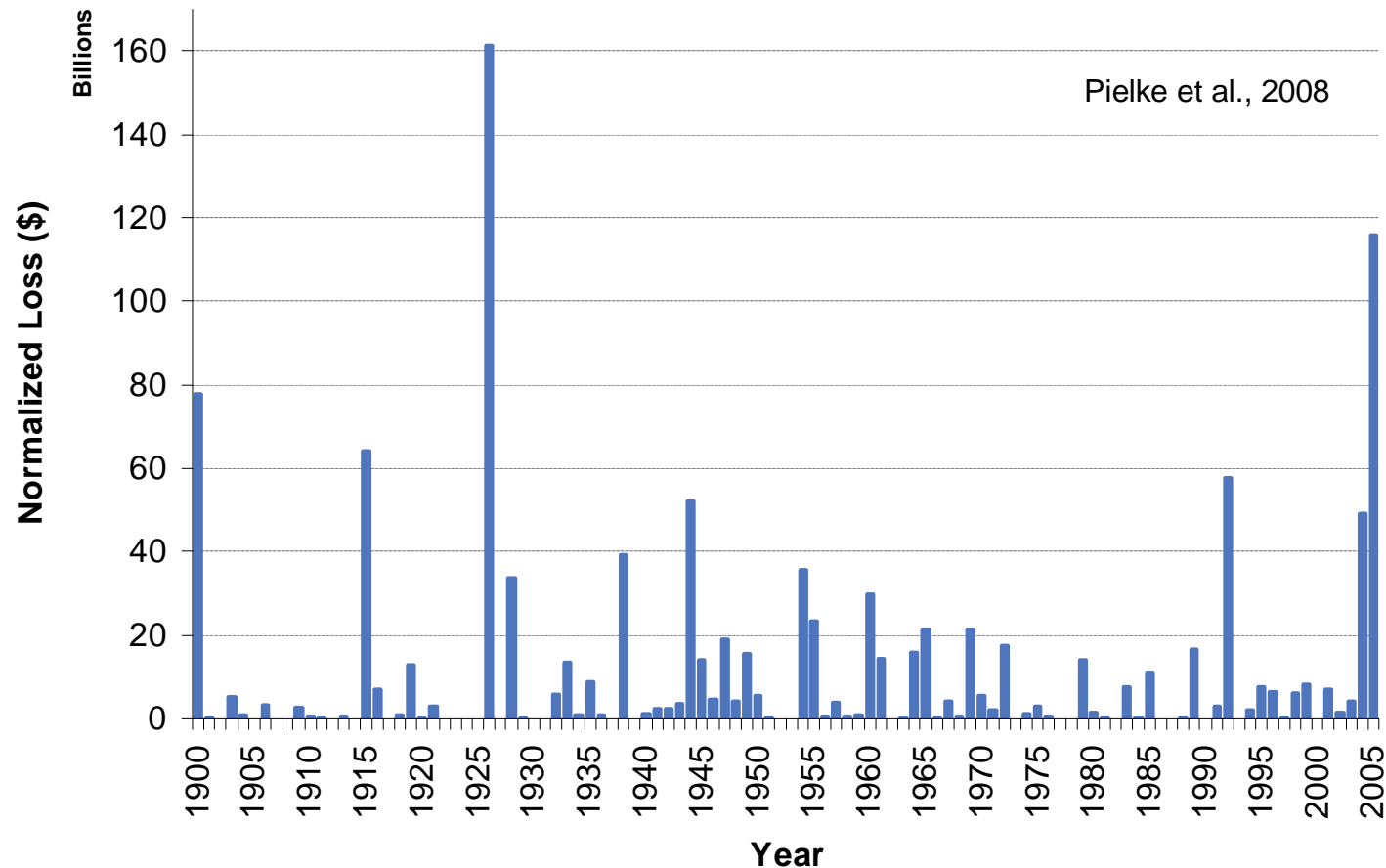
Start to think the unthinkable (9/11, Katrina, Tohoku)

A changing risk landscape – Looking into the Past and Model the Present



Losses due to Atlantic hurricanes - inflated

A changing risk landscape – Looking into the Past and Model the Present?



Losses due to Atlantic hurricanes – inflated and normalized

A changing risk landscape – Environment over time (Changing knowledge II)

§ Looking back into history is not enough anymore

§ Skilled forecasting provides business advantage

Prevents risky decisions

Enable real premium adequacy

Prevents losses

Supports portfolio diversity

Opens new business fields

The past is the key to the present –
the model is the key to the future

A changing risk landscape – Short term forecasting as premium client service



Weather Save Mobile App, powered by MeteoGroup

- § Location based Service –
Predefined
- § Covering basic Parameters –
*Temperature, Precipitation,
Wind*
- § Event Warning –
*Thunderstorm, Heatwave,
Rainfall*
- § Target Coverage –
Global

Single Client gets Alerts and Advice on upcoming Events

- Anticipated loss reduction
- Marketing



A changing risk landscape – Short term forecasting as premium client service



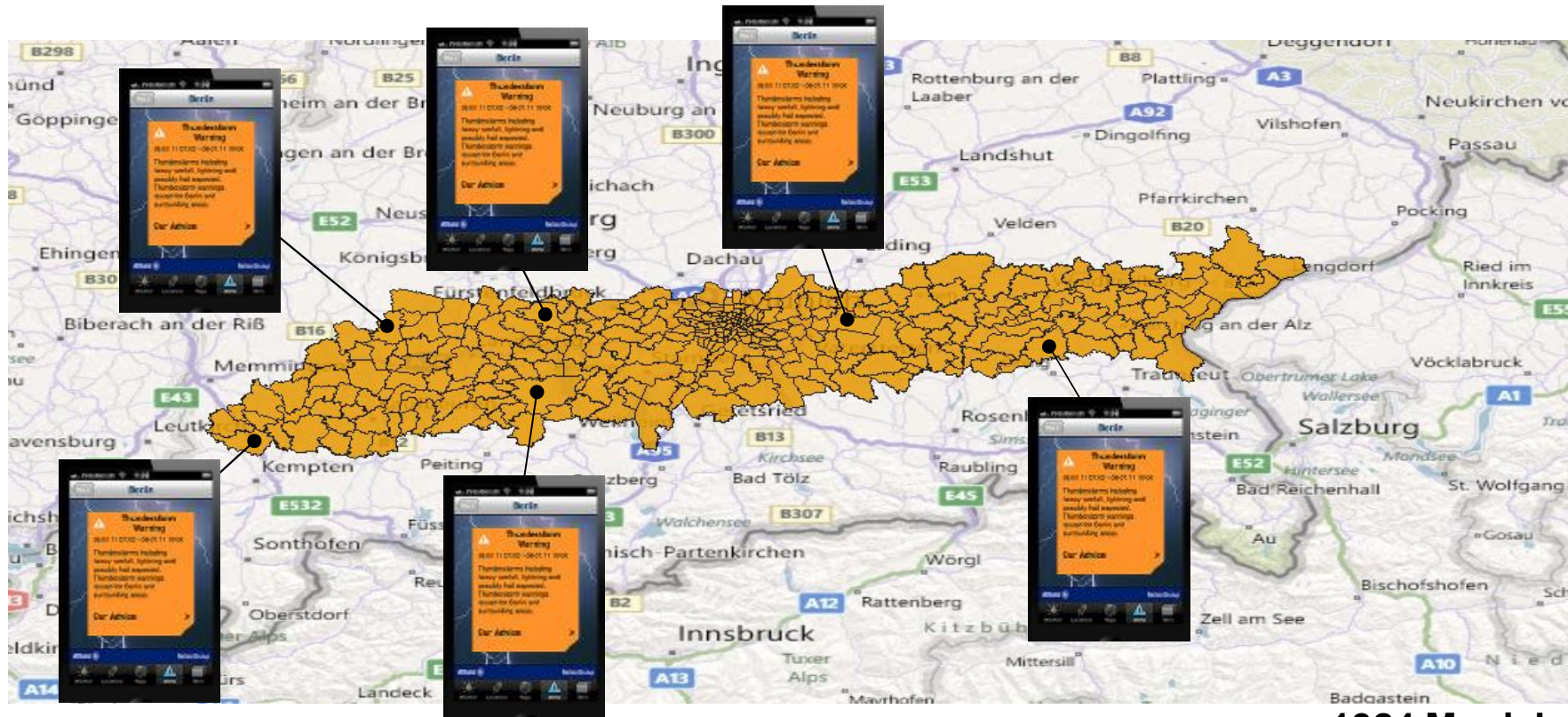
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What about the risk of “False Alarm”?



A changing risk landscape – Short term forecasting for efficient claims service



~ 1984 Munich

Regional alert on upcoming events

- Prepare claims service
- Provide background information

A changing risk landscape – Mid to long term forecasting for portfolio steering

Summary of Key Takeaways

- 2011 seasonal forecasts call for an **above average** hurricane activity in the Atlantic basin
- La Niña conditions will diminish during the season. Expected neutral conditions will only modestly increase the risk of elevated hurricane activity
- Seasonal forecasts are meant to provide an **indication of activity** in the upcoming season **relative to average**
- Major forecast skill only becomes apparent close to the season's inception
- Recent seasonal forecasts include landfall forecasts in the form of projected probabilities. **However, because landfall is highly dependent on short-lived and difficult to predict steering currents, landfall prediction is not very skillful up to now**

Regional activity forecast for tropical storms North Atlantic

- Rather good skill in number of storm
- Not very advanced when it comes to landfall

A changing risk landscape – Quantify the beast

§ Portfolio

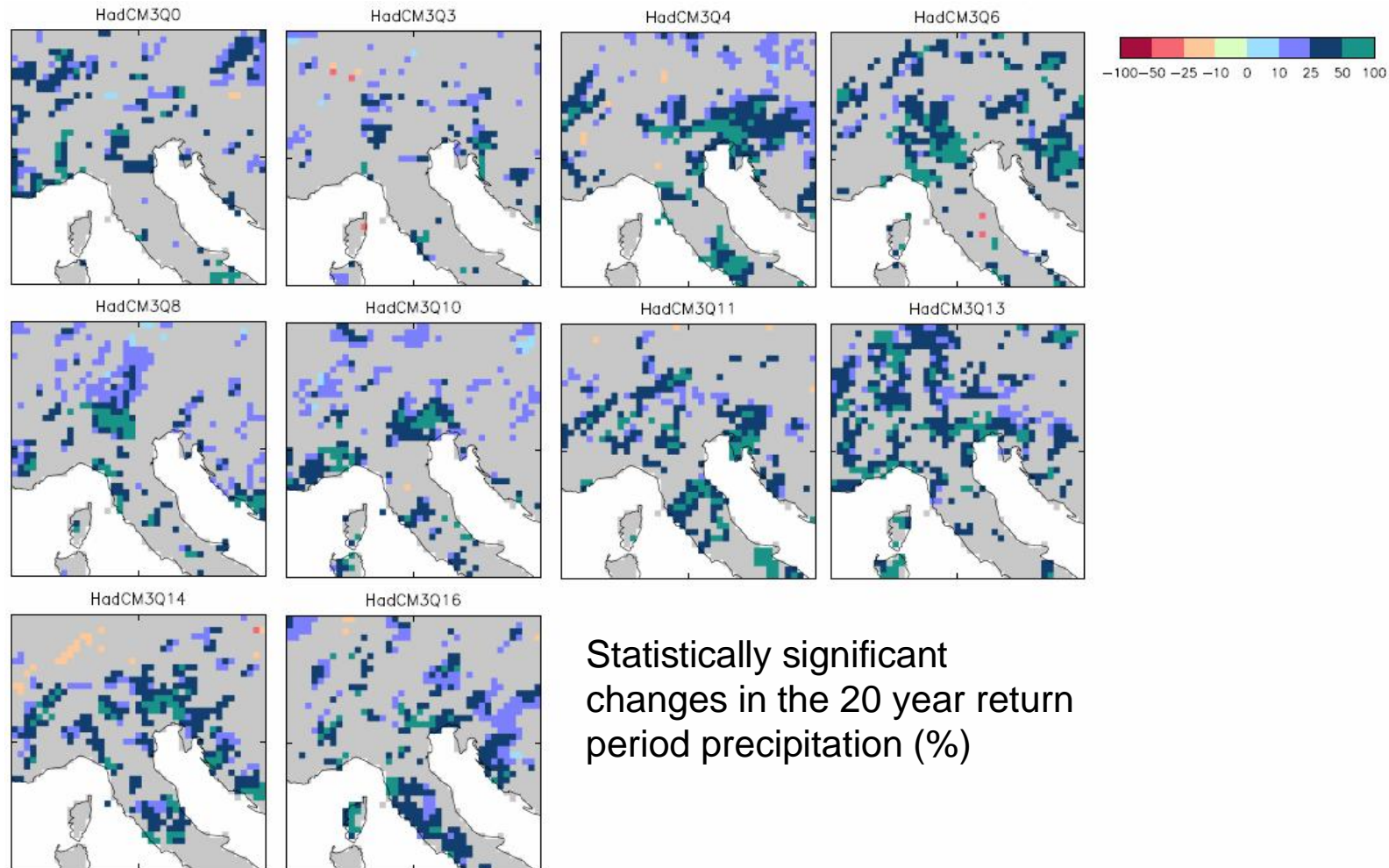
- Capture data on a standardized base
 - Get a common understanding
- } *Industry*

§ Environment

- Understand natural patterns
 - Looking into the past and model the present
 - Capture future trends (**Forecasting**)
- } *Science*

What about uncertainty?

Living the uncertainty – A regional example of for flashflood Italy



Conclusion on a changing risk landscape

- § Major loss drivers (Portfolio and environment) are changing in time
- § Looking backwards is not enough anymore
- § Skilled forecasting is crucial for future business
- § Uncertainties need to be understood

Remember: calculate adequate and sustainable premium