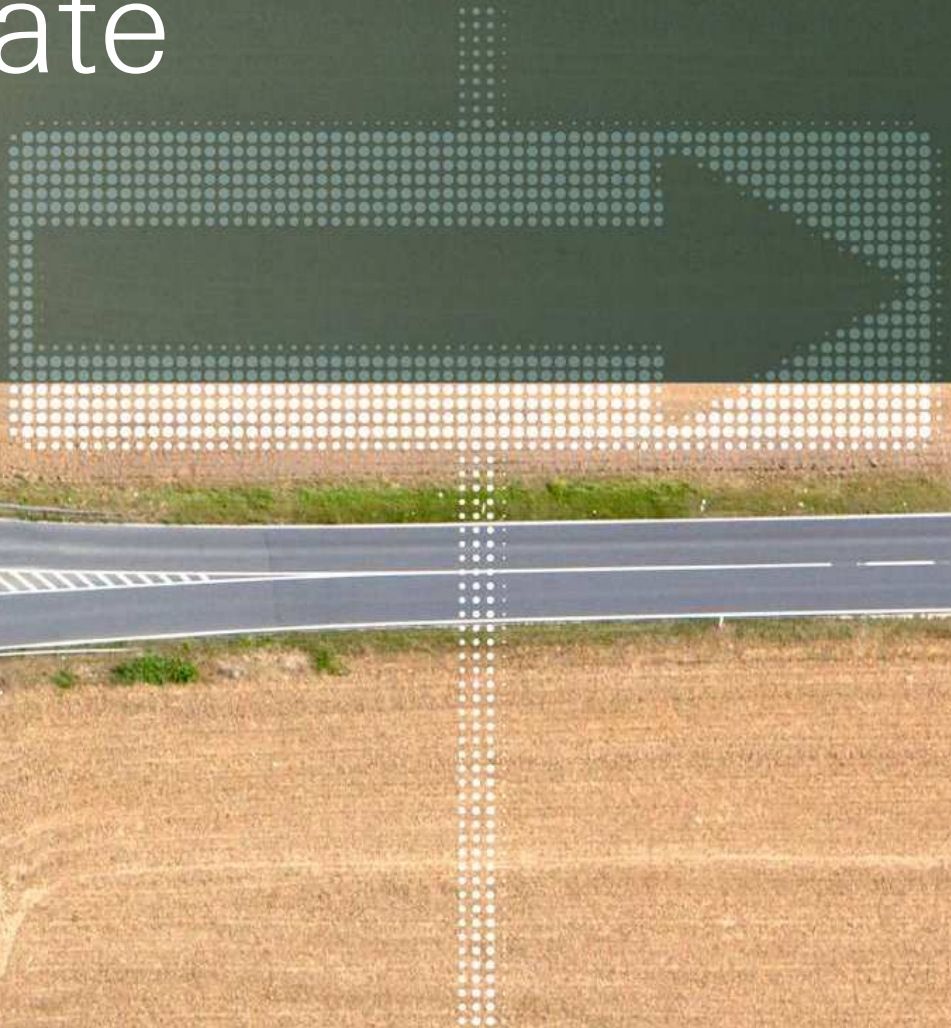


Swiss Re



Insurance Risk in a Changing Climate

Dr. Ulrich Ebel



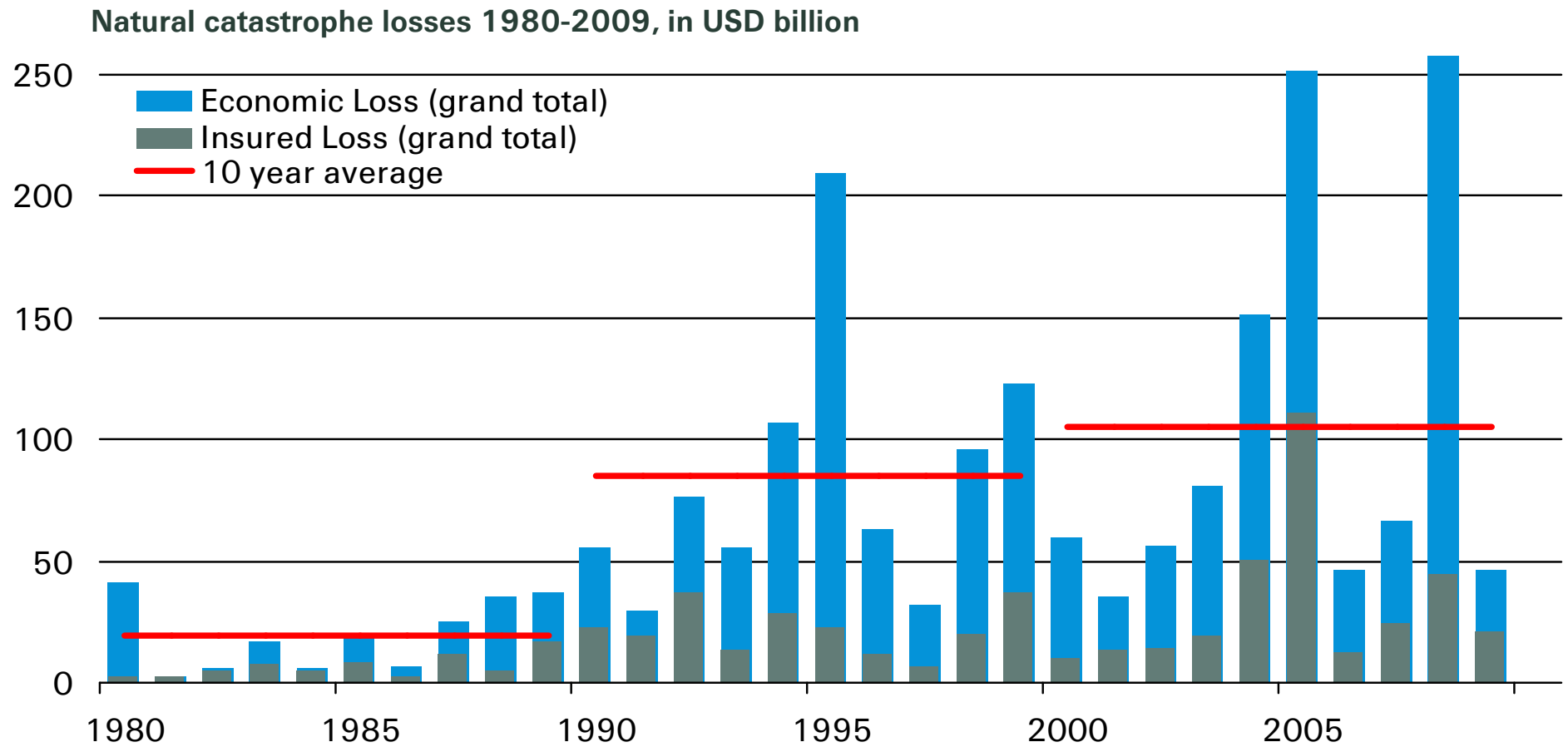


Marine Insurance

- roots go back to Babylonian times
- oldest known reinsurance treaty is from 1347, covering a ship and its goods against loss
- solidarity in the form of risk spreading is the basic principle of insurance and reinsurance
- cargo and hull are normally insured, as well as parts of the infrastructure
- marine insurance is normally an all risk cover
- consequential losses can arise in business interruption for industry production



Natural catastrophe losses are rising



Note: Loss amounts indexed to 2009

Source: Swiss Re, sigma No 2/2010



Rising natural catastrophe losses: Climate change is not the key driver yet

- Climate change results in rising intensity of storms, forest fires, droughts, flooding and heat waves in many regions
- Accumulation of assets in exposed areas:
 - Example Ocean Drive in Miami, Florida:



1926





2000





Transport sector will also experience higher losses



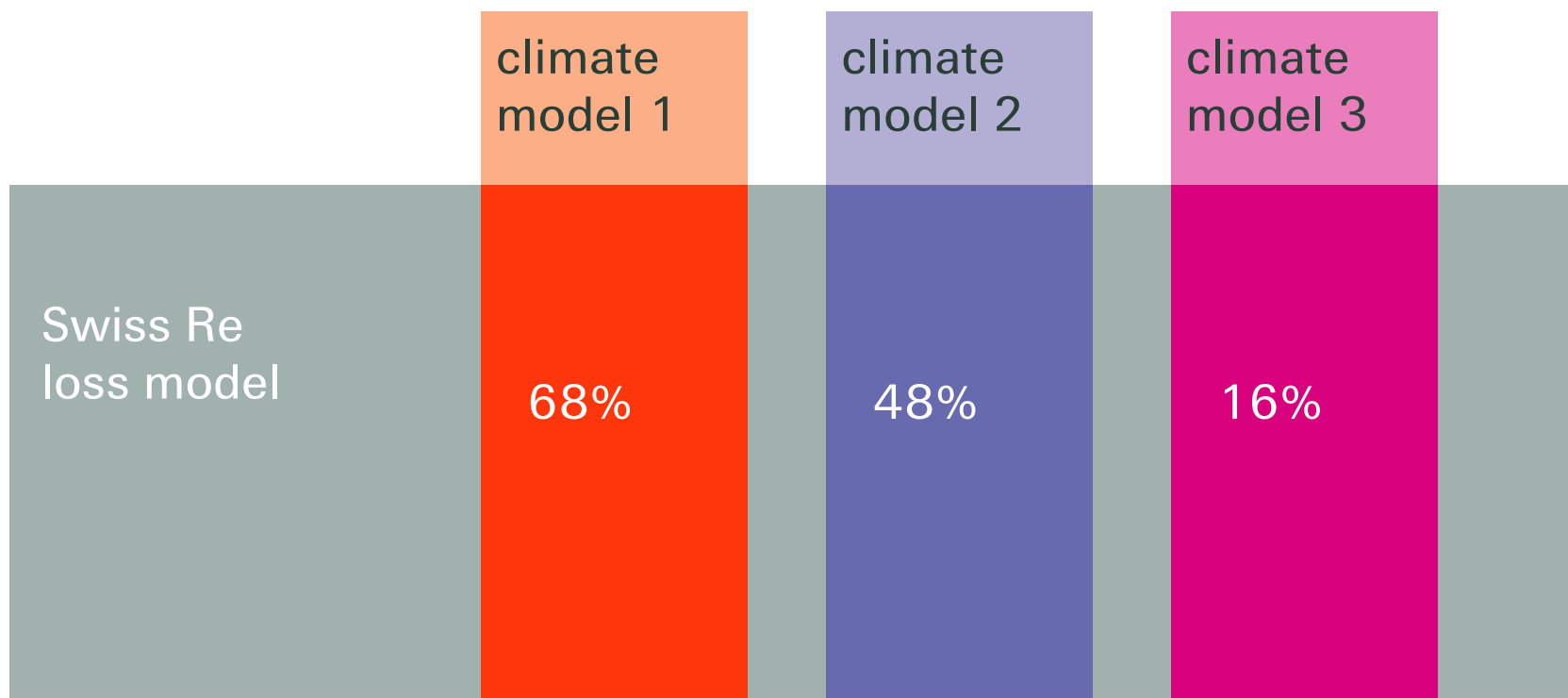
Swiss Re Studies on Climate Change Effects

<p>Swiss Re </p>		
<p>The effects of climate change: Storm damage in Europe on the rise</p>		
		
<p>Climate change is affecting winter storms in Europe. Based on the findings of a scientific study, Swiss Re forecasts a significant rise in damage from storm events in the long term, creating additional risk for society and insurers to manage.</p>		
<p>Focus report</p>		

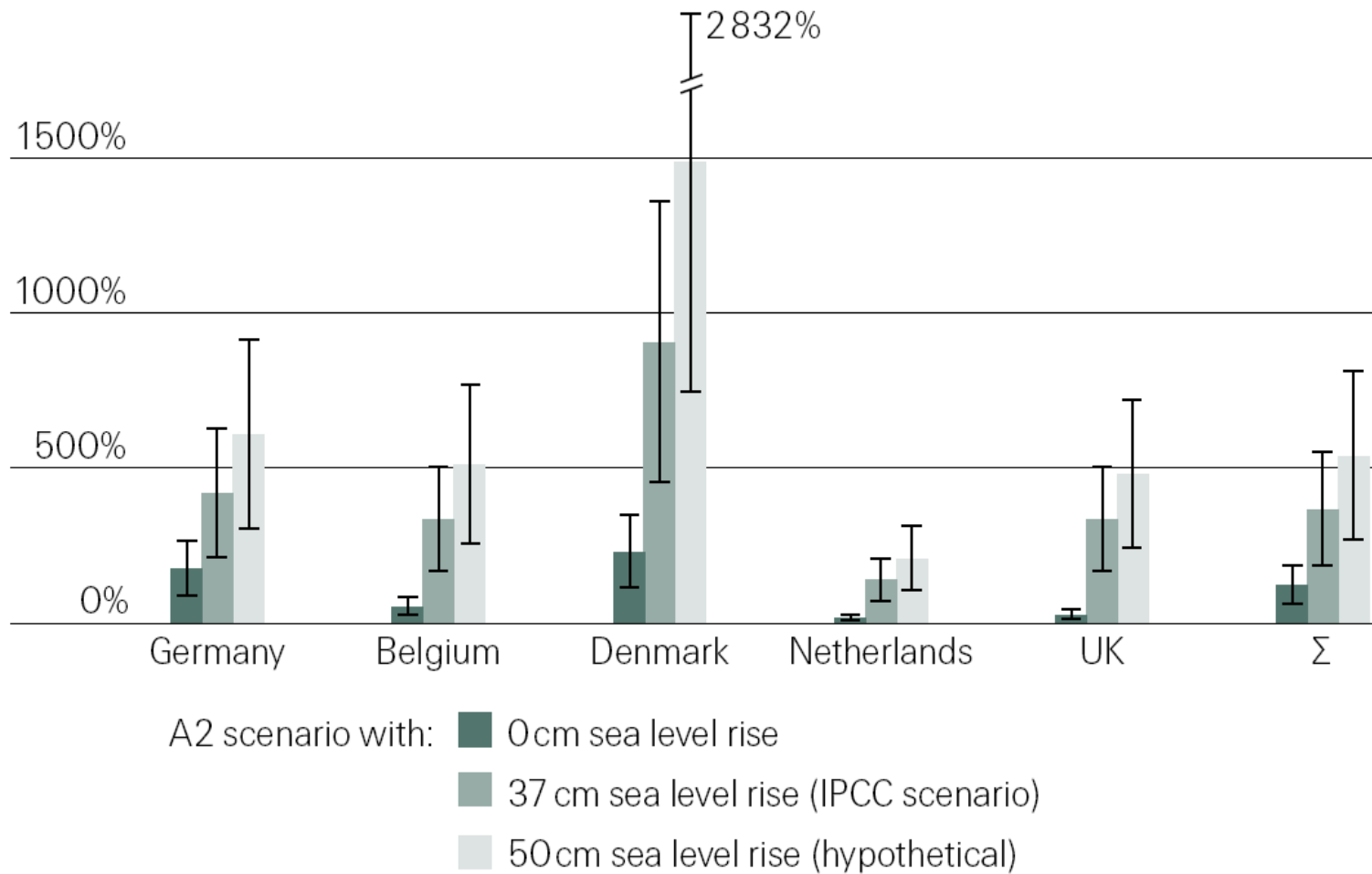
<p>Swiss Re </p>		
<p>The effects of climate change: An increase in coastal flood damage in Northern Europe</p>		
		
<p>Climate change is affecting storm surges in Europe. Based on the findings of scientific research, Swiss Re forecasts a significant increase in coastal damage in the long term. By the end of this century, once-in-a-millennium storm surge events could well be striking Northern Europe every 30 years. Governments and insurers will have additional risk to manage as a result.</p>		
<p>Focus report</p>		

Storm losses on the rise

Increase in annual expected loss for the period 2071–2100 compared to a 1961–1990 reference period:



Change in annual expected loss from storm surge



Swiss Re



Economics of climate adaptation – a framework for decision-makers



Please find the full study at www.swissre.com/rethinking/climate

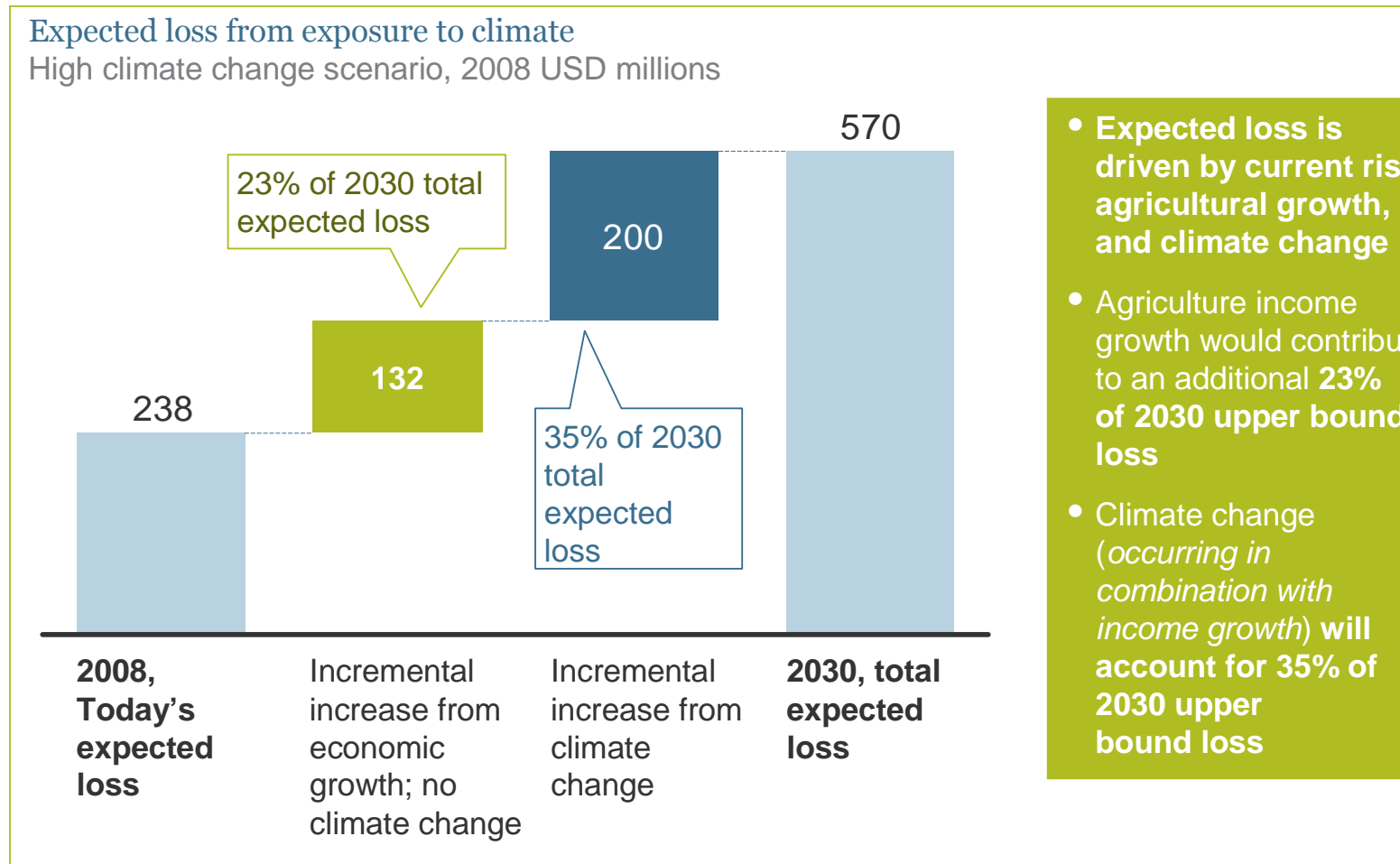
Economics of climate adaptation (ECA) The working group

Partner consortium:

 GEF <p>The Global Environment Facility (GEF) is a trust fund partnership among 178 countries, international institutions, non-governmental organizations (NGOs), and the private sector</p>	 <p>Climate Works is a newly formed global philanthropic network organized to win the battle against climate change.</p>
 UNEP <p>The United Nations Environment Programme (UNEP) is an international inter-governmental organization established by the General Assembly of the United Nations</p>	 <p>Standard Chartered operates in many of the world's fastest growing markets, and derives over 90 per cent of its profits from the emerging trade corridors of Asia, Africa and the Middle East</p>
 Swiss Re <p>Swiss Re is a leading global reinsurer, was a lead contributor to the research, risk assessment and quantification</p>	 <p>McKinsey & Company drove the analytical execution and contributed to the fact base</p>
 <p>The Rockefeller Foundation is a global philanthropic corporation</p>	 <p>The European Commission is the executive branch of the EU responsible for proposing legislation, implementing decisions; upholding the Union's treaties.</p>

The economic value at risk for each scenario is comprised of two components – economic growth and climate change

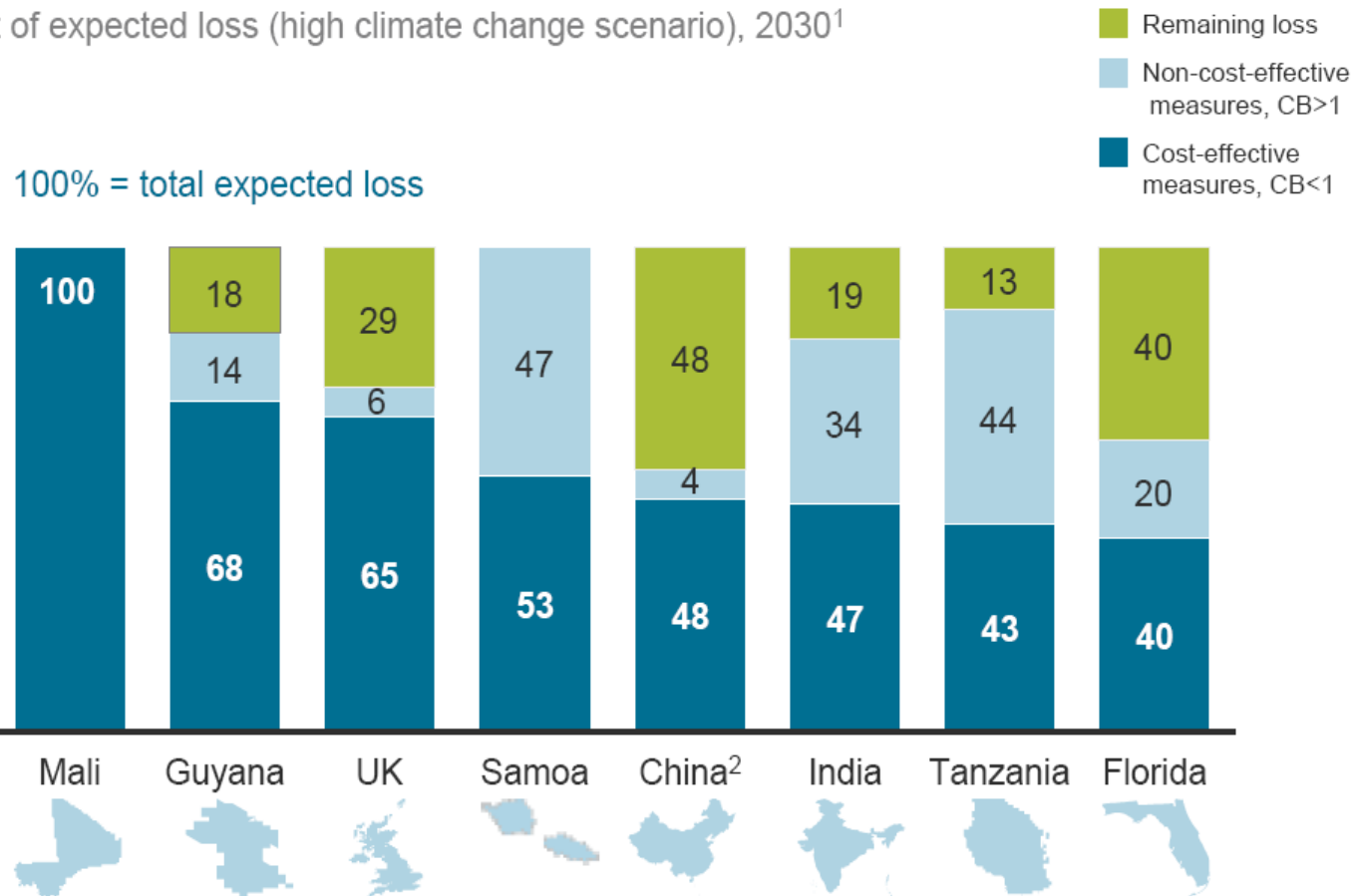
India, Maharashtra case study





Global overview: Expected loss averted by adaptation measures

Percent of expected loss (high climate change scenario), 2030¹

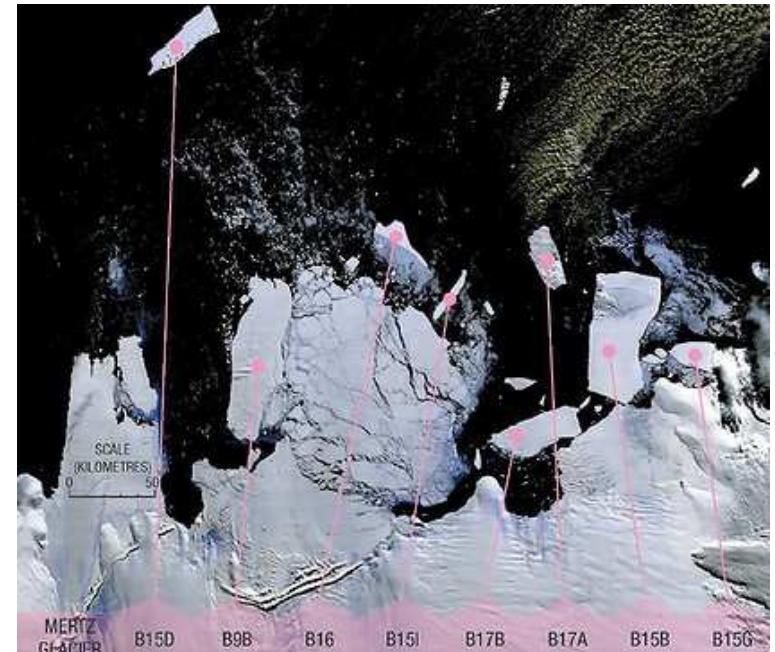


¹ Based upon select regions analyzed within the countries (e.g., Mopti, Mali; Georgetown, Guyana Hull, UK; North and Northeast China; Maharashtra, India; Central regions of Tanzania; Southeast Florida, U.S.)

² Based upon moderate scenario data and analysis

Summary

- Swiss Re monitors catastrophes worldwide
- Several studies on climate change effects forecast an increase of losses
- The marine sector and its insurance will also be affected
- Adaptation is essential
- To get adaptation measures accepted, the economic consequences need to be calculated
- Although the time scale of changes is long, we need to start now



Swiss Re



Thank you



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