



Press Release

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Notes to Editors

The Geneva Association is the leading international insurance think tank for strategically important insurance and risk management issues.

It identifies fundamental trends and strategic issues where insurance plays a substantial role or which influence the insurance sector. Through the development of research programmes, regular publications and the organisation of international meetings, The Geneva Association serves as a catalyst for progress in the understanding of risk and insurance matters and acts as an information creator and disseminator. It is the leading voice of the largest insurance groups worldwide in the dialogue with international institutions. In parallel, it advances—in economic and cultural terms—the development and application of risk management and the understanding of uncertainty in the modern economy.

The Geneva Association membership comprises a statutory maximum of 90 chief executive officers from the world's top insurance and reinsurance companies. Its members have total assets of more than US\$11.7tn, are headquartered in 27 countries around the world and employ more than 2 million people who serve customers in more than 140 countries. It organises international expert networks and manages discussion platforms for senior insurance executives and specialists as well as policy-makers, regulators and multilateral organisations.

Established in 1973, The Geneva Association has offices in Geneva and Basel, Switzerland and is a non-profit organisation funded by its Membership.

Geneva Association Issues New Report on Ocean Warming and its Implications for the Insurance Industry

(24 June 2013, Geneva) In some high-risk areas, ocean warming and climate change threaten the insurability of catastrophe risk. This is one of the conclusions of a research report issued today by the Climate Risks and Insurance working group of international insurance think tank, The Geneva Association (www.genevaassociation.org).

“There is new, robust evidence that the global oceans have warmed significantly,” said John Fitzpatrick, Secretary General of The Geneva Association. “Given that energy from the ocean is a key driver of extreme events, ocean warming has effectively caused a shift towards a ‘new normal’ for a number of insurance-relevant hazards. This shift is quasi irreversible—even if greenhouse gas (GHG) emissions completely stop tomorrow, oceanic temperatures will continue to rise.”

Lead author of the study, Falk Niehorster from the Risk Prediction Initiative of the Bermuda Institute of Ocean Science said, “In the non-stationary environment caused by ocean warming, traditional approaches, which are solely based on analysing historical data, increasingly fail to estimate today's hazard probabilities. A paradigm shift from historic to predictive risk assessment methods is necessary. As a consequence today's hazard probabilities become more and more ambiguous and the report calls for scenario-based approaches and tail risk modelling to become an essential part of enterprise risk management.”

When thinking of global warming, most people think of the atmosphere, not of the oceans. But it is the oceans that are the principle conveyor of energy around our planet. Through being the main source of water to the atmosphere, the oceans largely determine our weather patterns and provide the energy for the development of extreme events.

According to the report, the most significant driver to the rising of insured costs is driven by socio-economic factors, not least the

increasing wealth of individuals and the increasing concentrations of development and therefore risk in coastal areas and on floodplains. However, a lack of historical and observational data coupled with a series of competing theories amongst scientific models means that the return periods for climate related events are volatile. This creates a difficulty for insurers in pricing risks today based on data from the past adjusted for these dynamic upward cost trends.

The report provides three main drivers of change in loss potentials:

1. Greater volumes of water, greater risks. Thermal expansion of the oceans which combined with the melting of continental ice shelves and glaciers has increased global sea levels approximately 20cm over the last century, a rate that is accelerating. Not only do rising sea levels increase the risk of flooding or the potential impact of storm surges, but they also decrease the protective lifespan of coastal infrastructure such as Dutch flood dykes or the Thames barrier. Sea level rise also increases the damage potential from geophysical events because the risk of inundation is greater. Whilst the probability of a tsunami is not increased, the damage caused by one is.

2. Drier dry and wetter wet. A warmer ocean also means more water in the atmosphere. A warmer atmosphere contains more water and therefore more energy. This has the potential to increase the intensity of extreme events and associated precipitation. This greater intensity increases the loss potential of natural catastrophes.

3. Effects on large-scale climate phenomena are likely but currently unknown. The warming of the oceans is also likely to be affecting the large-scale climate patterns such as El Niño, various monsoon systems or the North Atlantic Oscillation. However due to the long timescales of ocean dynamics and the relatively short length of observational data, the effects of those changes on catastrophic risk are therefore currently unclear.

The report provides two key areas for addressing this challenge:

Firstly, insurers need to continue the development of modern means of estimating risk. The industry is moving away from using stationary climatological approaches for estimating shorter-term risks into using dynamic modelling approaches to estimate time-dependent medium-term outlooks in combination with scenario based approaches, already widely used for long-term assessment purposes. This process should continue and become best practice.

Secondly, governments and the private sector need to increase the resilience of communities by managing risks through a series of means, in particular building resilient infrastructure. See the Geneva Report *[Insurers' Contribution to Disaster Reduction – A Series of Case Studies](#)*, June 2013.

For a copy of the report, please [click here](#).

[https://www.genevaassociation.org/media/616661/GA2013-Warming_of_the_Oceans.pdf]

For a copy of the fact sheet, please [click here](#).

[<https://www.genevaassociation.org/media/616664/warming-of-the-oceans-factsheet.pdf>]

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