

News Release

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Rising Sea Levels Ranked as the Greatest Climate Change Threat, According to Guy Carpenter

Report Analyzes the Evolving Risk Landscape Under Global Warming

New York, September 3, 2013 – Guy Carpenter & Company, LLC, the leading global risk and reinsurance specialist and member of Marsh & McLennan Companies (NYSE: MMC), released today an analysis of the evolving risk landscape spurred by global warming. Climate change, global warming and the resulting landscape shift for risk management is a growing area of concern among governments, the general public, the private sector and the (re)insurance industry at large. According to the report, global warming is an established scientific fact that cannot be explained by natural variability alone.

“The debate on climate change and global warming has been intensely polarized. A great deal of this ‘noise’ has clouded the very real and emerging issues that we as an industry and society need to address,” said Johnny Chan, PhD, Director of the Guy Carpenter Asia-Pacific Climate Impact Centre. “In order to adapt to climate change and the changing risk landscape, it is necessary to cut through this noise and focus on objective decisions to mitigate both the financial and social risks associated with climate change.”

The Global Warming Reality

According to the Intergovernmental Panel on Climate Change (IPCC), a scientific body that reviews and assesses scientific evidence pertaining to the physics and impacts of climate change, the evidence of global warming is undeniable and includes: increasing air temperatures, increasing ocean water temperatures, tree ring characteristics, ice core characteristics and the retreat of ice caps. Although climate variability has been cited over past centuries, with supporting evidence dating back over the millennia, the rate of warming is believed to be unprecedented.

“Based on consistent and mounting scientific evidence, the IPCC has assessed that it is highly unlikely that recent warming trends can be explained away by natural variability alone,” said James Waller, PhD, Research Meteorologist for GC Analytics®. “Estimates show that the mean temperature of the Earth could rise an additional two to four degrees Celsius by the end of the century. This may seem like a relatively small increase, but the impact of rising temperatures, even by a few degrees, could cause a shift in weather patterns, with considerable impacts worldwide.”

The Changing Hazard Landscape

The single greatest threat posed by global warming is the rise in sea levels, which are expected to increase coastal flood frequency and severity from tropical cyclones, extratropical cyclones and tsunami events. According to the IPCC, a sea-level rise of at least one to two feet can be expected by the end of the century, though a wide range of sea-level rise scenarios exist. The growing urban

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footprint and increasing population density in coastal areas has also amplified the financial and societal impacts of such events.

The recent consequences of Cyclone Nilam for Eastern India and the impacts of Superstorm Sandy for the coastal United States are poignant examples of the *existing* coastal flood threat. The impact of hurricanes, notwithstanding any trends, is projected to become more severe under sea-level rise.

Changing weather patterns will also impose inland flood and drought risk for many areas, with implications for agricultural, wildfire and water resources management. By the end of the century, global climate models indicate that the number of days between precipitation events will increase for areas including, but not limited to, Southern Australia, Southeast Asia and India, Southern Europe, Central America and western North America, while others are expected to see diminished annual precipitation and could face water shortages. Drought conditions in turn pose a hazard of wildfires. Case in point, over the last three decades the wildfire season in the western United States has increased by about 78 days.

Adaptation Measures

Adaptation measures to offset the impact and hazards posed by global warming include water conservation and flood control efforts, coupled with sustainable agriculture and land-use planning. Diligent adjustment and modification of codes and standards to improve resiliency to wind and flood events can also offset vulnerability, in both developed and developing countries around the world, to reduce the financial and social risks and impacts associated with these catastrophic events. This is especially important for developing countries where over 95% of weather-related fatalities occur.

With the exception of coastal flood, inland flood and drought, the blanket assumption that increasing financial losses are directly and completely caused by an increase in natural hazard frequency misrepresents the issues. Rather, according to the report, it is crucial to account for factors including (per capita) gross domestic product, total insured value, population density and annualized property value. The impact of weather-related hazards are of course dependent on the frequency and severity of events, but also on vulnerability, population density, local infrastructure and the property values of affected areas.

For more information, visit <http://www.gccapitalideas.com>.

TAGS/KEYWORDS

Guy Carpenter, GC Analytics, Johnny Chan, James Waller, climate change, global warming, flood, hurricane, drought, weather

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Guy Carpenter & Company, LLC is a global leader in providing risk and reinsurance intermediary services. With over 50 offices worldwide, Guy Carpenter creates and executes reinsurance solutions and delivers capital market solutions* for clients across the globe. The firm's full breadth of services includes line-of-business expertise in agriculture; aviation; casualty clash; construction and engineering; excess and umbrella; life, accident and health; marine and energy; medical professional liability; political risk and trade credit; professional liability; property; retrocessional reinsurance; surety; terrorism and workers compensation. GC Fac® is Guy Carpenter's dedicated global facultative reinsurance unit that provides placement strategies, timely market access and centralized management of facultative reinsurance solutions. In addition, GC Analytics®** utilizes industry-leading quantitative skills and modeling tools that optimize the reinsurance

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decision-making process and help make the firm's clients more successful. For more information, visit www.guycarp.com.

Reactions magazine named Guy Carpenter Best Global Reinsurance Broking Company Overall and Best Reinsurance Broking CEO of the year in 2012. At the *Reactions* London Market Awards, Guy Carpenter was also named Reinsurance Broker of the Year and took home Reinsurance Broking Team of the Year honors for both Property and Aviation. In the past year, Guy Carpenter has also won: Global Best ILS Advisor (GC Securities*), US Best ILS Advisor (GC Securities*) and US Best Broker for Casualty Reinsurance from *Intelligent Insurer*, *Insurance Day's* 2012 ILS Transaction of the Year (GC Securities*), and Reinsurance Broker of the Year for the Asia-Pacific region at the 16th Annual Asia Insurance Industry Awards.

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