

News Release

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Guy Carpenter Asia-Pacific Climate Impact Centre Publishes Fifth Annual Report

Research Examines Pressing Climate Issues Including Cyclones, Air Quality and Modeling

New York, May 21, 2014 – The Guy Carpenter Asia-Pacific Climate Impact Centre (GCACIC), a joint initiative of the City University of Hong Kong and Guy Carpenter & Company, LLC, the leading global risk and reinsurance specialist and member of Marsh & McLennan Companies (NYSE: MMC), today released its fifth annual report presenting the highlights of the GCACIC’s research activities from the past year. The report details the findings of 16 projects conducted by the GCACIC, which focus on climate problems in the Asia-Pacific region as well as on a global scale.

“This year’s projects focus on understanding the variations driving weather phenomena in the Asia-Pacific and around the world,” said Professor Johnny Chan, Director, Guy Carpenter Asia-Pacific Climate Impact Centre. “With the important addition of new research initiatives surrounding air pollution, the GCACIC has expanded its efforts, studying how local and regional air pollution can affect climate from both a measurement and modeling perspective.”

Key areas of focus highlighted in the report include:

- **Tropical Cyclones:** This year’s report highlights new research on tropical cyclones. One study on cyclone patterns showed a possible decrease in tropical cyclone landfall intensity in the Guangdong province, but an increase in the Zhejiang province. Research on interdecadal change in South China Sea tropical cyclone frequency is related to the sea-surface temperature difference between the North Indian Ocean and the western North Pacific.
- **Global Circulation:** Several studies on global circulation were included in the 2013 GCACIC program. One research project explored the impact of the cold tongue El Niño and the warm pool El Niño on tropical cyclones over the South China Sea from 1965 to 2010. Another demonstrated the great discrepancies in annual cycles of moisture supply, specifically how the variation in regional precipitation over southeast and southwest China strongly depends on externally imported moisture, rather than local evaporation.
- **Modeling & Prediction:** Floods and droughts are responsible for significant social and economic losses in China. Predicting precipitation over the monsoon China region, however, continues to be a challenge for global climate models. This year’s report highlights a method to improve the seasonal forecast for rainfall in summer months in South China by using a statistical downscaling. The report also highlights new research to address air pollution – one of the biggest environmental problems in Asia-Pacific cities and around the world.

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- **Air Quality:** This year's report also highlights GCACIC's keen attention to the study of air quality, with research focusing on areas such as black carbon, greenhouse gas concentrations, and air pollution forecast modeling. In order to investigate the public's exposure to traffic pollution, an experimental study was executed in Central, a developed business district in Hong Kong. The study examined the impact of traffic volume and composition on the air quality and pedestrian exposure in the area, with the goal of providing insight on targeted and cost-effective emission control and air quality strategies.
- **Climate Change:** Finally, the annual report also details this year's research on climate change, specifically examining heat waves and East Asian jet streams. High temperature extremes have received increasing attention due to their rising impacts on human mortality, regional economies, and impact on affected ecosystems. This study examines the validity and effectiveness of modeling summer hot spells in China.

"Natural catastrophes and climate risks continue to pose a significant threat to the communities, economies and ecosystems of the Asia-Pacific region, but understanding these threats is the first line of defense in providing better solutions and protections in this region and around the world," said James Nash, CEO of Asia-Pacific Region, Guy Carpenter. "We remain steadfast in our dedication to the Centre's mission of understanding climate perils through research that will provide the intelligence needed to prepare for and protect against the effects of climate-related events."

The full report is available for download at www.gccapitalideas.com.

TAGS/KEYWORDS

James Nash, GCACIC, Professor Johnny Chan, climate change, modeling, pollution, El Niño, Asia-Pacific, tropical cyclone

About Guy Carpenter Asia-Pacific Climate Impact Centre

The Guy Carpenter Asia-Pacific Climate Impact Centre (www.cityu.edu.hk/gcacic) was established in June 2008 with City University of Hong Kong. The Centre integrates academic and industry research to advance the understanding of climate-related perils and catastrophic risks across the Asia-Pacific region.

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