

*Cat Modeling 2009:
Catastrophe Modeling in Uncertain Times*

As of 12/30/2008

WORKING AGENDA

TUESDAY, FEBRUARY 17, 2009

8:30 a.m. - 9:30 a.m. **International Society of Catastrophe Managers (ISCM) Board Meeting**

10:00 a.m. **ISCM Third Annual Meeting of Members**

Report to Membership: ISCM Officers and Board of Directors
Ronald C. Nash, SVP & Chief Catastrophe and Aggregation Manager, XL Global Services, ISCM President

An Oceanographer's Perspective of Climate Change
Ruth Curry, Senior Research Specialist, Physical Oceanography, Woods Hole Oceanographic Institution

11:30 a.m. **Cat Modeling Registration Opens/ Lunch Sponsored by**



1:15 p.m. **General Session**

Welcome and Introduction

Frank Nutter, President, Reinsurance Association of America
Andrew R. Castaldi, SVP, Head of CUO Americas Hub, Swiss Re

1:30 p.m. **The 2008 Atlantic Hurricane Season and HURDAT**

Christopher W. Landsea, PhD, Science and Operations Officer, NOAA/NWS/National Hurricane Center

An overview of the 2008 hurricane season, how the National Hurricane Center predicts the track and intensity of Atlantic storms, a snapshot of future forecasting tools and techniques, and a discussion on the Atlantic Hurricane Database (HURDAT)—how it is used, how it is updated and revised, and its limitations.

2:30 p.m. **Refreshment Break Sponsored by**



2:45 p.m. **General Session Continues**

Quantifying Uncertainty in Wind Field Estimates

Srinivas (Sai) Ravela, PhD, Department of Earth, Atmospheric and Planetary Sciences, Massachusetts Institute of Technology

A discussion on the underlying uncertainties in wind field estimates. Learn questions you should ask the modeling companies and what it means to your model results.

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TUESDAY, FEBRUARY 17, 2009 (CONTINUED)

3:45 p.m. Refreshment Break *Sponsored by*



4:15 p.m. Breakout Sessions

Basic Track: Meteorology

Mark C. Bove, Geo Research Specialist – Meteorology, Munich Re America

Learn the four basic building blocks of catastrophe models and how they are adapted in practice for modeling tropical cyclones. The discussion will also address stochastic event sets, site intensity calculations, and vulnerability curves.

Moderate Track: Efficient Risk Management—Mitigation Versus Traditional Risk Transfer

Peter Montpellier, WeatherPredict Consulting

Explore other options to managing risk at all levels in the value chain. Examples include a case study to minimize water intrusion/storm damage experienced outside of maximum wind zones.

Moderate Track: FAIR Plans, Pools, Assessments

John Elbl, AVP & Catastrophic Aggregations Manager, Zurich-American

Determining underlying catastrophic risk is no longer limited to the consideration of wind or earthquake-exposed properties. This discussion will highlight why aggregation management now requires a company to consider its exposure to involuntary markets in addition to property in interpreting its true surplus risk.

Moderate Track: Using Past Loss Experience and Other Simple Approaches for Confirming and Calibrating Current Analyses

Mohit Pande, VP, Natural Hazards, Swiss Reinsurance America

Learn how a modeler can use his/her previous loss results, as well as those of the industry, to calibrate frequency and severity of pre- and post-event analysis.

Advanced Track: Insurance Portfolio Optimization

Lixin Zeng, PhD, Executive Risk Officer, Validus Re

Cat models help a property (re)insurance company optimally select risks to build a portfolio with a superior risk/return profile. This discussion will define the related analytical framework, introduce the development and implementation of a solution, and demonstrate the application of this approach to a sample insurance portfolio.

Advanced Track: Cat Bonds, Industry Loss Warranties, SWAPS

Erik Manning, PhD, Director - Alternative Risk Markets, Deutsche Bank AG London

5:30 p.m. Adjourn to Reception *Sponsored by*



First American

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7:30 a.m. **Breakfast** *Sponsored by*



**Munich Re America
Munich Re Group**

8:30 a.m. **General Session**

USGS Decision-Making Tools for Pre-earthquake Mitigation and Post-earthquake Response

David Wald, PhD, Seismologist, U.S. Geological Survey, National Earthquake Information Center

The USGS's new tools for post-earthquake assessment rely on ShakeMap, and include ShakeCast, a rapid impact assessment system for critical lifeline utilities, and Prompt Assessment of Global Earthquakes for Response (PAGER), which automatically provides alerts for global earthquake disasters. This discussion will explore how these enhanced tools work, how they can be used for decision making in earthquake planning and response, and suggest how they present opportunities for cat bonds and other products.

9:30 a.m. **The Role of Capital Markets Capacity in Traditional Reinsurance Programs**

Richard Goldfarb, FCAS, CFA, Aon Benfield Investment Banking Group

Insurers have integrated alternative sources of reinsurance capacity from the capital markets with coverage from traditional reinsurers to increase the efficiency of their reinsurance programs. The critical characteristics of cat bonds, sidecars, ILWs and collateralized reinsurance will be discussed and contrasted with traditional reinsurance to highlight the appropriate role for each of these forms of risk transfer capacity.

10:30 a.m. **Refreshment Break** *Sponsored by*



11:00 a.m. **General Session Continues**

Panel Debate: Should Models Be Subject to Regulatory Review?

Moderator: Franklin W. Nutter, President, Reinsurance Association of America

11:00–11:45 a.m. - What Regulators, Insurers and Reinsurers Think

Panelists: Nonnie Burnes, Commissioner, Massachusetts Division of Insurance

Karen M. Clark, President & CEO, Karen Clark & Company

John J. DeMartini, EVP, Towers Perrin Reinsurance

Jack E. Nicholson, PhD, Senior FHCF Officer, Florida Hurricane Catastrophe Fund and Member, Florida Commission on Hurricane Loss Projection Methodology

11:45 a.m.–12:15 p.m. - The Modelers Respond

Panelists: David A. Lalonde, Senior Vice President, AIR Worldwide

David F. Smith, Senior Vice President, Model Development, EQECAT

Claire Souch, PhD, Senior Director, Model Management, RMS

12:15–12:30 p.m. - Questions and Answers

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WEDNESDAY, FEBRUARY 18, 2009 (CONTINUED)



12:30 p.m. Lunch Buffet *Sponsored by*

2:00 p.m. Breakout Sessions

Basic Track: Winter Storm

Nicholas, F. DiMuzio, Senior Catastrophe Analyst, XL Global Services

This session provides a comparative analysis of industry winter storm modeling capability, including a discussion of data requirements, hazard modeling advancements, and a general comparison of industry models and their results.

Basic Track: Climate Signals—Impact on Modeling Storms (Tropical Cyclone, Winter & Tornado Hail)

Dail Rowe, Regional Manager, WeatherPredict Consulting

Moderate Track: Offshore Oil and Gas

Siamak Daneshvaran, PhD, PE, ARe, ARM, Senior VP & Director of Engineering, Aon Benfield Re Impact Forecasting

This session provides a detailed probabilistic framework to estimate the hurricane risk to the offshore oil and gas platforms in the Gulf of Mexico. It will also address some of the existing challenges in the quantification of business interruption and other relevant insurance coverages.

Basic Track: Earthquake Modeling Basics

Prasad Gunturi, Director of Modeling Research, Willis Re

An exploration of the key components of earthquake risk models, how each can be used to understand the differences between vendor models, and their importance to loss estimates. Attendees will apply this knowledge to understand changes to the USGS's 2008 National Seismic Hazard Maps, the implications that these new maps could have for catastrophe risk managers, and how vendor earthquake models might differ from the USGS's research.

Moderate Track: Rating Agencies and Catastrophe Modeling

Valerie K. Kloepfer, SVP, Guy Carpenter

Rating agency treatment of catastrophe risk has evolved over recent years to reflect current modeling capabilities and "lessons learned" from actual events. This session will review how each major rating agency views cat modeling results as submitted by insurers and reinsurers. An update on proposed changes for the 2008 reporting year will also be provided.

Moderate Track: Data Standards—Whose Responsibility is It?

Robert Stevenson, Group Head - Exposure Management, Kiln Group

Throughout the catastrophe modeling community, data quality is acknowledged as one of the primary drivers of uncertainty in results. This session will look at the range of data quality in the industry, current market initiatives to improve it, and how each entity can play their part in the process.

3:00 p.m. Refreshment Break *Sponsored by*



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WEDNESDAY, FEBRUARY 18, 2009 (CONTINUED)

3:30 p.m. Breakout Sessions

Basic Track: Fire – Brush/Wildfire

Candace Iskowitz, Public Affairs Manager, Institute for Business and Home Safety

A detailed look at the factors that put homes at greater risk of wildfire damage, solutions for minimizing these risks, and a discussion of how wildfire-resistant construction and development guidelines were shown to significantly reduce losses in the Witch Creek Wildfire of 2007.

Moderate Track: Earthquake Vulnerability Modeling: The Known Knowns and Unknowns

Hjörtur Thráinsson, PhD, Senior Corporate Underwriter, Accumulation Risk Management, Munich Re

This session will discuss what factors drive earthquake vulnerability of structures and how users of earthquake risk models can reduce the uncertainty in the modeled results.

Moderate Track: Changing Elements in European Insurance

Peter Hausmann, Head R&D Cat Perils, Swiss Re

Flood and wind risks in Europe are increasing. An overview of the new PERILS loss index that will offer new risk transfer options to the capital markets, and changes in CRESTA and ACORD data standards that will support the risk assessment.

Moderate Track: Florida Wind Mitigation Credits

Lawrence Twisdale, PhD, Applied Research Associates

Peter Vickery, PhD, Applied Research Associates

Introduction by Richard Murnane, PhD, Baseline Management

A discussion of the results of the recently-completed research to update the mandated Florida wind mitigation insurance credits, followed by a summary of the research and results for the forthcoming ASCE hurricane wind maps for building design in the U.S.

Moderate Track: Portrait of Storm Surge: Hurricane Ike, Surge Analysis and Validation

Howard Botts, PhD, EVP & Director of Database Development, First American

Advanced Track: Topic TBD, Marshall & Swift / Boeckh

4:30 p.m. General Session

Current State of Terrorism

Peter Chalk, PhD, Senior Policy Analyst, RAND Corporation

An overview of the evolving trends in transnational Islamist terrorism and the implications for potential attack scenarios in the U.S. The discussion will focus on the continued preference for suicide strikes, and increasing interest on soft targets of opportunity (executed by homegrown extremists), economically-disruptive attacks, and low-tech biological and radiological attacks.

5:45 p.m. Adjourn to Reception Sponsored by



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THURSDAY, FEBRUARY 19, 2009



7:30 a.m. Breakfast *Sponsored by* **TOWERS
PERRIN**

8:30 a.m. General Session

Model Comparison

Peter Skerlj, Head of Modeling, Lancashire Insurance Company

A comparison of modeling results for US hurricane and earthquake from RMS' RiskLink model, AIR's Classic2 model, and EQECAT's WORLDCATenterprise model. Comparison will be made for a single residential building and a single commercial building considering an array of different environmental factors and construction features.

9:30 a.m. Modeler Breakout Sessions

Topic TBD, AIR

Topic TBD, EQECAT

Topic TBD, RMS

10:30 a.m. Refreshment Break *Sponsored by* **SCOR**

11:00 a.m. Modeler Breakout Sessions

Topic TBD, AIR

Topic TBD, EQECAT

Topic TBD, RMS

Noon Lunch Buffet *Sponsored by* **SwissRe**



1:30 p.m. General Session

Catastrophe Exposure Data Quality Survey: Raising the Bar on Catastrophic Exposure Data Quality

Trish Conway, Insurance and Actuarial Advisory Services, Ernst & Young

Navid Zarinejad, FCAS, MAAA, Senior Manager, Ernst & Young

2:00 p.m. The EP Curve's New Clothes

Peter Taylor, DPhil, Research Associate, Future of Humanity Institute, Oxford University

A call for probability theory to be treated with greater caution than it historically has been, and for those interested in exposure and price to think wider than just EP curves.

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THURSDAY, FEBRUARY 19, 2009 (CONTINUED)

3:00 p.m. **Refreshment Break** *Sponsored by* **HARBORPOINT**

3:30 p.m. **General Session**

Are Cat Models Real or Are They Memorex?

William I. Riker, President, Riker Consulting

Political and social issues are emerging as the science becomes mainstream in insurance risk management. Debate on their accuracy and general efficacy is becoming more volatile as affected constituencies cry foul. What can primary users and providers do to help frame the debate into one which is useful?

4:30 p.m. **Wrap Up/Adjourn**

5:00 p.m. **Reception** *Sponsored by*



FRIDAY, FEBRUARY 20, 2009

8:00 a.m. **Breakfast** *Sponsored by*

8:45 a.m. **General Session**

Climate Change and Its Impact on Hurricane Activity

Judith A. Curry, PhD, Chair, School of Earth and Atmospheric Sciences, Georgia Institute of Technology

An exploration of the impact of decadal-scale natural climate variability and global climate change on North Atlantic hurricane activity.

9:45 a.m. **TBE**

10:30 a.m. **Refreshment Break** *Sponsored by*

10:45 a.m. **Caribbean Catastrophe Risk Insurance Facility – Alternative Ways of Designing Catastrophe Programs for the Future**

Simon R. Young, CEO, Caribbean Risk Managers, Ltd. & Supervisor, Caribbean Catastrophe Risk Insurance Facility

The Caribbean Catastrophe Risk Insurance Facility (CCRIF) is the world's first multi-national parametric catastrophe pool for Caribbean countries exposed to significant catastrophe risk from tropical cyclones and earthquakes. Dr. Young will discuss the CCRIF, plans for its expansion, and a new risk modeling framework the CCRIF will use to underpin new policy formulations.

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- 11:30 a.m.** **Legislative Update - Results of Election Year 2008 and Its Impact on Catastrophe Insurance and Reinsurance**
Franklin W. Nutter, President, Reinsurance Association of America
- 12:15 p.m.** **Adjourn**