Moody's | RMS

CCRA™
Certified Catastrophe Risk Analyst

The CCRA Training Program

Earn Recognition and Gain Confidence With our Comprehensive Curriculum Designed to Advance Your Modeling Expertise

> Participants gain a solid foundation of core concepts essential for interpreting and applying loss estimates, and they become skilled at the critical assessment of assumptions that affect catastrophe model results.

Moody's RMS CCRA Training Program

The Moody's RMS™ Certified Catastrophe Risk Analyst (CCRA®) Training Program is a comprehensive curriculum designed to fast-track individuals with an intermediate level of catastrophe modeling experience to an advanced understanding of models and modeled loss estimates. Participants gain a solid foundation of core concepts essential for interpreting and applying loss estimates, and they become skilled at the critical assessment of assumptions that affect catastrophe model results.

The CCRA Training Program reflects current trends in catastrophe modeling and the insurance industry, as well as concepts specific to Moody's RMS models and software.

Although objectives are reinforced using the RiskLink® and Risk Modeler™ software platforms and other Moody's RMS products, CCRA materials are broadly applicable to a range of catastrophe modeling disciplines.

Individuals who complete the program are eligible to sit for an exam and, upon passing, earn the CCRA designation. Since its introduction in 2005, the designation has gained insurance industry recognition as a symbol of excellence in the field of catastrophe modeling.

CCRA Designation: an Important Recognition of Modeling Expertise

"The CCRA Training Program was very well organized, dynamic, and the interaction between the attendees was really incredible. At that time, I already had some experience in catastrophe modeling, but it was only after the training and studies for the CCRA examination that I felt the concepts being consolidated. It was the basis for the development of my career. Being from Brazil and being one of the first ones developing catastrophe analysis there, the CCRA designation gave me an important recognition of the work I was doing, giving me more confidence to go beyond."

Luis Brito, Head of Catastrophe Modeling, IRB Brasil RE

The Importance of CCRA in Career Development

"I thoroughly enjoyed the CCRA Training Program, not only for giving me a comprehensive understanding of RMS models but also for the professional network the program and accreditation has allowed me. The program particularly developed my understanding of Moody's RMS' complex financial module from both an insurance and reinsurance perspective. The detailed content sets a high-level professional standard for (re)Insurance analysts and is an important step in developing a career in the field."

Georgie Tuffin, Catastrophe Modeler, AON

Participant Benefits

- Increase understanding and expertise in catastrophe risk analysis and management
- Interface directly with Moody's RMS experts through small, instructor-led courses
- Network with a cross-section of industry peers
- Earn the Certified Catastrophe Risk Analyst (CCRA) designation upon passing an exam
- Access annual updates of CCRA Training Program materials to stay current with industry developments

Sponsor Benefits

- Reduce internal training time and overhead
- Ensure consistent, high-quality training for catastrophe analysis teams
- Realize maximum value from investments in catastrophe modeling technology
- Equip team members with full command of underlying modeling assumptions and processes
- Formally recognize employees with advanced skills in catastrophe modeling

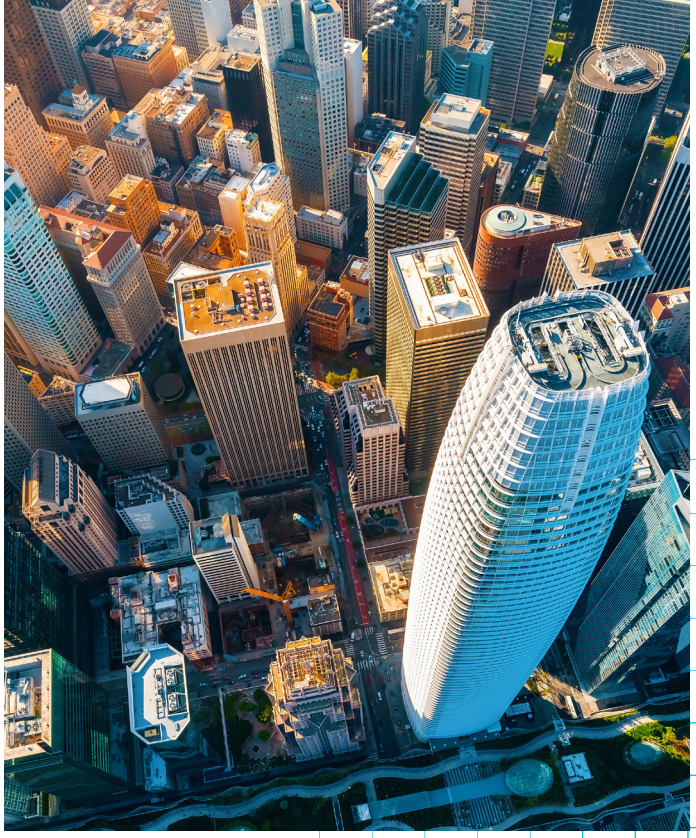
Program Requirements

Only licensed Moody's RMS clients are eligible to attend the CCRA Training Program. In addition, RMS strongly recommends that participants have at least one year of catastrophe modeling experience, preferably using RiskLink or Risk Modeler software.

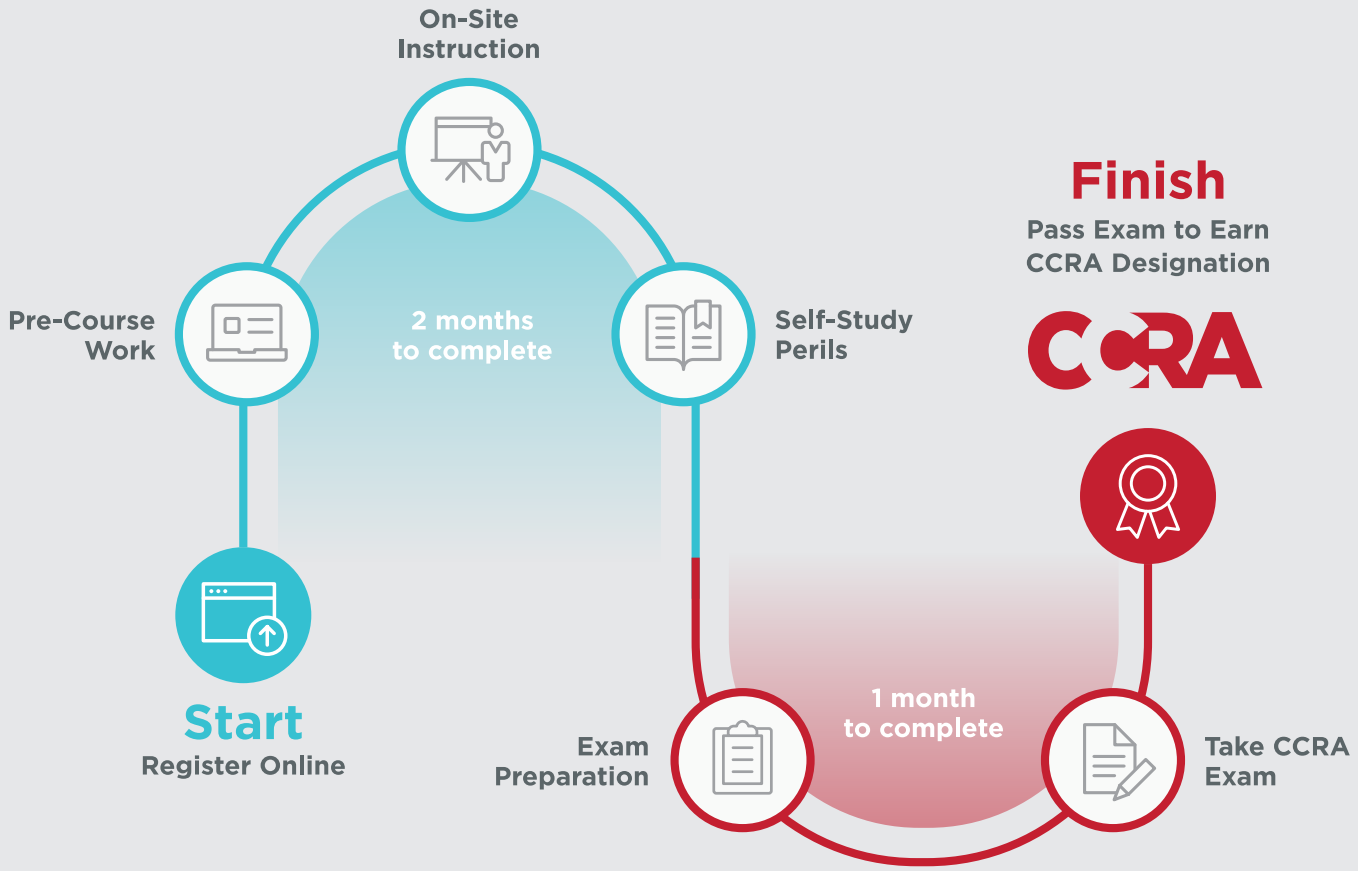
Course Overview

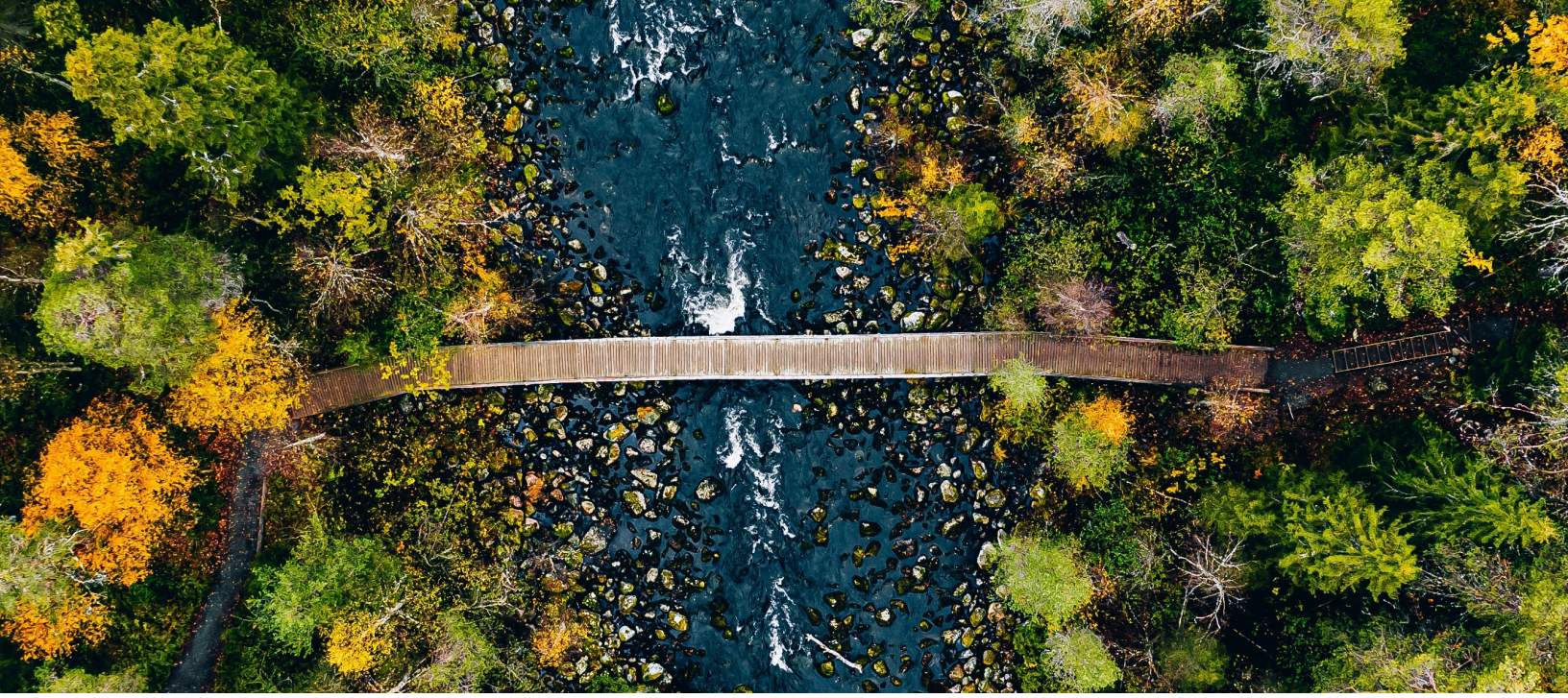
The CCRA Training Program is divided into three consecutive modules: Exposure Data, Modeling Foundations, and Perils. Details of each module, including courses offered, course objectives, access to materials, and methods of instruction, are listed in the tables on pages 7–8.

CCRA Training Program materials are updated annually to reflect the latest version of Moody's RMS products, current market issues, and feedback from clients who have participated in the program. All program participants benefit from continued access to updated materials as long as they remain clients of Moody's RMS.



CCRA Training Program Timeline





Accreditations and Affiliations

- **Chartered Insurance Institute**
  The CCRA Training Program is accredited by the Chartered Insurance Institute (CII). Individuals who participate in the CCRA Training Program are eligible to claim up to 35 hours towards the CII/Personal Finance Society member Continuing Professional Development (CPD) scheme.

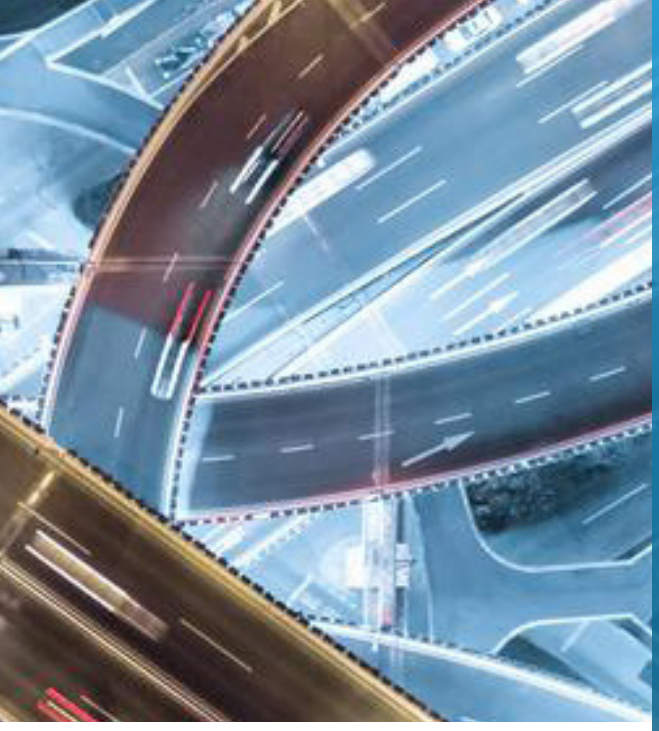
- **Chartered Property Casualty Underwriters Society**
  All participants who complete the CCRA program and hold the Chartered Property Casualty Underwriter (CPCU) designation are eligible for 15 continuing professional development (CPD) credits.

How Does the Program Work?

The CCRA Training Program includes a total of twelve courses, nine of which are mandatory for program completion.

Three courses are offered on-site at selected Moody's RMS offices; the remaining nine are self-paced, with course materials accessible by download from a password-protected area of Moody's RMS Support Center. The program's coursework spans approximately two months. Upon completion of the program, participants are eligible to sit for the CCRA exam, which is offered multiple times a year at selected RMS offices worldwide.

For the current schedule of locations, dates, and fees, please visit the "Training" page on Moody's RMS Support Center: **https://support.rms.com/group/rms/training-dashboard**.



The Benefits of a CCRA Certification

"The CCRA training course was an excellent deep dive into the workings of RMS cat models. The information I learned there has continued to be an asset to my career in the years since receiving my CCRA accreditation. Not only that, but the relationships I formed during the CCRA program have stuck with me as well. I highly recommend it."

Daniel Zitelli, Vice President, Holborn

Exposure Data Module (Prerequisite for Other Two Modules)

Method	Course	Objectives
• Self-paced • Materials available online from Moody's RMS Support Center • Prerequisite for Modeling Foundations and Perils modules	Exposure Data Analysis	• Understand the challenges and issues surrounding exposure data analysis • Gain familiarity with different types of exposure data and how to manage and analyze each type at the location, account, policy, and portfolio level • Address the relevant data quality issues that impact catastrophe-exposed property and casualty data
	Geocoding and Hazard Retrieval	• Understand the implementation of geocoding information in catastrophe risk analysis applications and its correlation to hazard data assignments on a global basis • Review relevant business application mapping and reporting products, and analyze the integration of hazard data into underwriting guidelines • Examine the impact of geocoding and hazard exposure data assignments on analysis results
	Accumulation Management	• Understand multi-line accumulation management applications for both natural and man-made catastrophes • Gain an appreciation for accumulation management tools and practices currently available, as well as challenges the industry faces in trying to understand portfolio aggregates

Modeling Foundations Module (On-Site, Instructor Led)

Method	Course	Objectives
• Instructor led • Four consecutive days of classroom instruction, including interactive review of Exposure Data Module • Offered on-site at selected Moody's RMS offices	Financial Modeling	• Explore the principles of catastrophe risk financial modeling to gain a better understanding of how regional and market practices impact losses • Review different methodologies for applying a financial model; uncertainty and its impact on losses; modeling complex financial structures; and the impact of modeling aggregate data through a detailed model • Investigate financial model issues during the post-analysis phase of the catastrophe risk modeling process
	Uncertainty Measures	• Gain a solid understanding of the various ways in which uncertainty is calculated and quantified in modeling • Review details of how uncertainty affects loss results • Evaluate real-world examples of what the quantification of uncertainty means to those who rely upon catastrophe model results for making business decisions
	Catastrophe Modeling Applications	• Integrate all previous course concepts to apply model loss results to a variety of business situations • Review key financial model statistics and the proper use of these statistics • Apply catastrophe modeling concepts through a group project that analyzes data from the insurer's and reinsurer's point of view

Perils Module

Method	Course	Objectives
• Self-paced • Minimum of three courses required • Materials available online from Moody's RMS Support Center	Earthquake	General objectives for each of the Perils model courses include the following: • Advance knowledge and understanding of the natural or man-made event • Review the methodologies that can be employed to create a robust event set • Understand the local site effects that cause damage • Examine the process through which damage is translated into financial loss • Enhance understanding of inherent uncertainties and the appropriate application of loss results • Discuss application of models for pre- and/or post-event loss modeling • Reinforce key concepts through interactive, hands-on exercises
	Extratropical Cyclone	
	Flood	
	Severe Convective Storm	
	Terrorism	
	Tropical Cyclone	

Moody's | RMS

Moody's RMS shapes the world's view of risk for insurers, reinsurers, financial services organizations, and the public sector, with Moody's RMS models underlying the nearly $2 trillion USD Property & Casualty industry. We empower organizations to evaluate and manage global risk from natural and man-made catastrophes, including hurricanes, earthquakes, floods, climate change, cyber, and pandemics.

Our unmatched science, technology, and 300+ catastrophe risk models help (re)insurers and other organizations evaluate and manage the risks of natural and man-made disasters. Leaders can address the risks of tomorrow with the Intelligent Risk Platform™, the only open cloud with collaborative applications and unified analytics that can power risk management excellence across organizations and industries.

Today's risk professionals trust Moody's RMS to help them manage and navigate the risks of natural and man-made catastrophes.

Risk Management Solutions, Inc. is a subsidiary of Moody's Corporation (NYSE: MCO) and operates as part of the Moody's Analytics business segment. Moody's Analytics is operationally and legally separate from the Moody's Investors Service credit rating agency.

Risk Management Solutions, Inc.
7575 Gateway Blvd., Suite 300
Newark, CA 94560 USA

www.rms.com

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