



# CoreLogic® Climate Risk Analytics

## Climate Risks and Challenges

CoreLogic® believes that climate change is having a clear, present, and increasing impact on our planet, amplifying both physical and economic risks. Government Agencies, Regulators and Corporations need to understand the effects of climate change, specifically the physical and economic risks, to mitigate impacts and build more resiliency into planning. The way in which climate changes occur is still uncertain. It is a complex and multi-faceted challenge. Understanding the physical and economic impact involves identifying risks across perils at the property level, translating those risks into economic values, and overlaying various climate scenarios while using a standard metric consistently throughout the process. CoreLogic data, analytics and probabilistic models do exactly that.

## Solution Overview

Climate Risk Analytics is a detailed financial assessment of the impact of climate on all properties in the continental United States. It contains basic property information and 20+ detailed risk measures including Average Annual Loss (AAL) and multiple Probable Maximum Loss (PML) calculations across various climate scenarios. These are available in raw form on a per-peril basis normalized to a 0-100 scale, or Composite Risk Score, which measures overall risk. Organizations can then use these metrics to understand the physical and economic risks of climate change and the financial impact on portfolios so they can confidently measure, mitigate and manage risk today and in the future.

### Features:

- 7 perils, 2 variations and 4 composite variations for a total of 13 peril scenarios
- Current and future-looking timeframes (2022, 2030, 2040, 2050)
- 3 major climate change scenarios across IPCC's AR5 climate models (RCPs 2.6, 4.5, 8.5)
- 4 major climate change scenarios across IPCC's AR6 climate models (SSPs 2.6, 4.5, 7.0, 8.5)

Starting with highly curated data, Climate Risk Analytics uses downscaling, artificial intelligence, advanced weather sciences and math along with intense computing power to accurately assess probabilistically projected losses for every structure in the continental U.S. The solution is built on four key pillars:

- **Detailed property characteristics**, such as building type, year built, roof age, First Floor Height, location, and more
- **Property-level financial data**, such as replacement cost and automated valuation models
- **Frequency and severity of natural hazard perils**, such as hurricane, storm surge, inland flood, wildfire, severe convection storm, winter storm, tsunami and earthquake—fire following
- **Climate scenarios**, defined by the Intergovernmental Panel on Climate Change's (IPCCs) Representative Concentration Pathways (RCPs) or Shared Socioeconomic Pathways (SSPs). These scenarios help build a 300-thousand-year simulation with varying severity and frequency distribution of perils in high resolution.

## Applying the Solution

CoreLogic articulates a comprehensive, multi-peril risk score at the property level, providing and facilitating individual climate change scenario testing to yield an accurate picture of physical and monetary risks.

Our physical risk model combines proprietary datasets and models into a comprehensive single score, the **CoreLogic Composite Risk Score** (CRS), that incorporates the following hazards: Earthquake, Wildfire, Inland Flood, Severe Convective Storm, Winter Storm, Hurricane/Tropical Storm Surge and Hurricane/Tropical Storm Wind. Scaled 1–100, CRS represents the sum of the Average Annual Loss (AAL), relative to the calculated Reconstruction Cost Value (RCV) for these hazards, for approximately 105 million residential and 40 million commercial properties across the U.S. These economic measures are used in the housing ecosystem, by financial services, corporations, prudential regulators for supervisory stress testing and oversight, and by government agencies planning and maintaining infrastructure programs.

We then use catastrophe modeling, including all historic forensic and simulated events, optimized for climate change scenarios. These scenarios, prescribed by the Intergovernmental Panel on Climate Change (IPCC), model multiple Representative Concentration Pathway (RCP) or Shared Socioeconomic Pathway Scenarios and for several time horizons (2022, 2030, 2040 and 2050). The result is climate change risk metrics for each RCP scenario, down to the individual property level. These metrics incorporate IPCC scenarios overlaid with CoreLogic's proprietary suite of hazard risk data and analytics, and catastrophe models. Updated continuously, this is the largest and most comprehensive historical weather/catastrophic event set and simulated event library in the industry.

We look forward to an engaging discussion on how we can help you. Please visit [www.corelogic.com/climate-risk](http://www.corelogic.com/climate-risk) for more information.

*CoreLogic empowers property solutions through innovative technology, best in class science and unique data insights at every property touchpoint, to enable superior decisions and seamlessly connected customer experiences.*

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