In 2011, RMS continued to expand its probabilistic, high-resolution earthquake risk modelling for Europe, with significant upgrades to the existing Greece and Turkey models and the release of four new country models - Bulgaria, Hungary, Romania, and Slovenia. With the 2011 release, the RMS Europe earthquake model suite covers a total of 21 European countries, all modeled on a single regional source model, including: Andorra, Austria, Belgium, Bulgaria, France (including Monaco), Germany, Greece, Hungary, Italy, Ireland, Liechtenstein, Luxembourg, Netherlands, Portugal, Romania, Slovenia, Spain, Switzerland, Turkey and the United Kingdom.

One of RMS' key goals is to ensure its models are up to date, both in terms of the science on which they are founded and the modeling methodology on which they operate. This release of the Greece earthquake model delivers comprehensive updates to all components of the model, bringing it into line with our latest earthquake modeling standards and providing consistency with RMS releases for the rest of Europe.

A new source model has been developed with better spatial coverage and incorporating the latest views of risk in regions like the Hellenic Subduction Zone. The ground motion model, which translates ground shaking at source to ground shaking at the location of the insured exposure, has also been updated with a blend of global and locally derived attenuation functions. Finally, damage estimation has been migrated onto a spectral response-based approach, which better reflects the seismic performance of buildings and improves loss estimates. The vulnerability functions are calibrated according to local building codes, building stock and are developed with the assistance of local consultants.

Risk differentiation is also improved by higher resolution geocoding and hazard retrieval, new vulnerability regions (which adjust damage ratios to account for regional variation within the country) and new construction and occupancy classes (which allow for more accurate classification of the insured property). To assist users who do not have access to detailed property data, RMS models can call on a database of insured property, termed "The Inventory", which will assign average building characteristics depending on the location of the insured risk. RMS builds a bespoke inventory for every country in which it models risk, taking into account local building stock and regional variations.

Before trying to attribute loss changes to the updates of individual model components, it is important to understand there is significant interaction between the model components – the source model affects the ground motion model; the ground motion model interacts with the vulnerability model. In general terms, however, the new source model acts to increase losses while the ground motion model reduces losses. The effect of the new vulnerability model varies by line of business, but within a given line, it tends to reduce losses at short return periods while increasing losses at longer return periods.

The net effect of the model changes for Greece, based on RMS' view of exposure across all lines of business, is a decrease in loss at the lower return periods (lower than 1-in-100 years) and an increase in mid-range probabilities of exceedance and at high return periods (beyond 1-in-1000 years). However, there is strong variation in changes in loss by line of business as well as regionally within the country.