



Updating ruin models in a climate change context

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Climate change is of great concern for insurers because of increasing in frequency and intensity of extreme weather events which may represent some very serious insolvency issues. We derive asymptotics for the ruin probability of an insurance company in a risk model where claim size distribution as well as claim frequency change over time. This is a way to take into account observed and/or projected changes in some specific weather-related events like tropical storms for example. In practice, the results obtained so far are used to try to calculate the cost of adapting to the impacts of climate change for an insurance company in a simplified portfolio. Some examples are presented to illustrate the theory.

Keywords: risk theory; non-stationarity; tropical storms.