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# Forest Insurance for Natural Events

Brunette, M. and S. Couture. Forest Insurance for Natural Events: An Overview by Economists. *Forests.* 14(2).

## 0: Abstract

Forest insurance exists for more than a century in many countries around the world. Currently, it is put forward as a recommended tool to finance resilience and adaption toward climate change. However, little synthetic knowledge exists on forest insurance, although this seems to be a prerequisite for using insurance as an adaptation tool. This article aims at providing an overview of the current economics literature on forest insurance.

The objectives of this study are to carry out a literature review on this topic, to produce a bibliometric overview of knowledge on this issue, and thus to highlight scientific fronts.

We collected 38 articles published in English between 1928 and 2021 and provide the following bibliometric information: journals, evolution over time of the publications, authors and co-citations network, and analysis of the keywords. We also propose to synthesize the methods used, the various issues of interest, the risks considered and the countries where the studies are conducted.

We show that an article on forest insurance has a high probability of being recent (2020+) and of being published in the journal *Forest Policy and Economics.* Additionally, it is likely that it will identify some determinants of insurance demand and that it will deal with fire risk in the US or storm risk in Europe.

## 1: Introduction

Natural hazards are the main threat to forests worldwide. It’s estimated that over the period 2002-2013, 67 million hectares of forest were annually burned worldwide, 85 million hectares were affected by insects, 38 million by severe weather conditions, and 12.5 million by disease. These incidents have increased over time, primarily driven by climate change.

Insurance for natural disturbances is available in many countries. Forest owners can transfer risks to insurers through an insurance contract. It’s generally fire and storm damages that can be insured, like in France or Germany, or other risks such as insect damage in Finland or carbon loss in New Zealand. However, large differences are observed across countries in terms of adoptions. The penetration rate of forest insurance is the highest on the market in northern countries, with 95% of private forest area insured in Sweden, and around 40% in Finland and Norway. In France, less than 4% of the private forest area is insured, and a similar situation exists in Spain and Germany.