

Branching out

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Climate change and forest fires: the temperature's rising!

Forest fires burn on average 20,000 km² of forest each year in Canada. The increase in forest fire activity that is expected to occur with climate change could have major ecological, economic and industrial repercussions owing to associated changes in the composition and structure of the vegetation.

Researchers with Natural Resources Canada's Canadian Forest Service and scientists working for Climate Risk Analysis¹ have modelled the historical variations in the frequency of large (greater than 200 ha) forest fires and also simulated future fire frequency.

This work shows that by the end of the 21st century, the frequency of large forest fires could exceed the values recorded over the past 240 years. In spite of the predicted increase in precipitation, higher summer temperatures will lead to more intense and frequent droughts. Scenarios based on significant and rapid global industrial development include increased greenhouse gas emissions and a sharper increase in the number of forest fires. The greater fire frequency could result in greater carbon emissions from forests and pose a major challenge in terms of sustainable forest management.

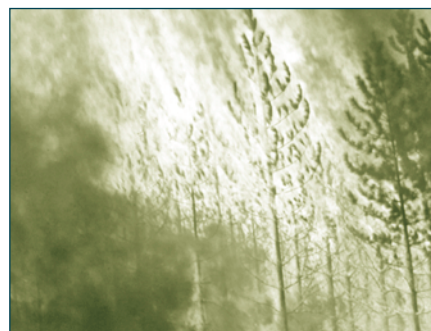
In light of these findings, a number of measures need to be considered, including:



Photos: NRCan

- the implementation of ecosystem-based forest management approaches adapted to a climatically altered fire regime;
- an increase in forest fire suppression efforts; and
- better planning of burned timber salvage operations.

Risk prediction modelling is an essential part of research on the impact of climate change on forest fire activity since it supports the development of increasingly accurate sustainable management tools.



FOR MORE INFORMATION, PLEASE CONTACT:

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¹ Research company based in Germany that specializes in risk analysis of extreme weather events.



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