

Branching out

from the Canadian Forest Service ■ Laurentian Forestry Centre

Number 50
2009

Climate change and forest fires: the taiga is at risk

Researchers at Natural Resources Canada's Canadian Forest Service have recently used a new model for estimating the risk of large forest fires (over 200 hectares) in various regions across Canada.

The risk is mainly related to the increase in summer temperatures and droughts¹. However, close observation of changes in precipitation and evapotranspiration reveals unexpected effects on drying rates in the deep layers of the forest floor.

This phenomenon is not uniform across the different regions studied. This new information indicates that the risk of large fires is declining south of Hudson Bay, in western Canada and in the eastern Maritimes. These regions were con-

sidered to be at high risk in the early 20th century, with one year of large fires every five years, but now the risk is low to moderate, with one year of large fires every seven years. In the forests of Central Canada and those north of the Great Lakes, the risk of large fires has changed from extreme (one in five years) to one in fourteen years. On the other hand, in the taiga regions the risk has risen from one in seven years to one in five.

The results of this large-scale international research project show the difficulty in predicting the real impacts of climate change on forest ecosystems. More research is needed to reduce the uncertainty which forest managers must consider in their long-term planning. Fires shape the boreal forest

landscape. Their frequency, intensity and distribution vary greatly from one region to another. Fire risk predictions are vital to forest ecosystem management plans, and they therefore need to be accurate as possible.

USEFUL LINK:

Forest fire in Canada
fire.cfs.nrcan.gc.ca

FOR MORE INFORMATION, PLEASE CONTACT:

Martin Girardin
Natural Resources Canada
Canadian Forest Service
Laurentian Forestry Centre
1055 du P.E.P.S.
P.O. Box 10380, Stn. Sainte-Foy
Québec, Québec G1V 4C7
Phone: 418-648-5836
Fax: 418-648-5849
E-mail: martin.girardin@nrcan.gc.ca
Website: cfs.nrcan.gc.ca

+ : increased risk.
- : decreased risk.



Partenariat
innovation
forêt

FPInnovations
Ressources naturelles Canada
Natural Resources Canada

A healthy forest ■ A strong forest sector ■ Knowledge at your fingertips

1 M. Girardin, 2008. Climate change and forest fires: the temperature's rising! Branching Out No. 41. Canadian Forest Service – Laurentian Forestry Centre.



Natural Resources
Canada

Ressources naturelles
Canada

© Her Majesty the Queen in Right of Canada 2009
Catalog Number Fo113-1/50-2009
ISBN 978-0-662-05333-0 • ISSN 1705-5784

Canada