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CANADIAN FOREST SERVICE

# Science HIGHLIGHTS

INTERNATIONAL BOREAL  
FOREST MONITORING

## How can boreal forest countries learn best practices from each other?

**An emerging circumboreal monitoring network is helping researchers and other forest stakeholders assess forest management practices across borders**

Three researchers separated by thousands of kilometres share a common goal to come together to better understand the boreal forest. These researchers—in eastern Canada, northern Finland and western Russia—are from very different places, but they are all working on projects to monitor biodiversity conservation in the boreal forest.

“We first met about 10 years ago at a conference in Finland. After that we decided to start collaborating,” says Louis De Grandpré, a research scientist with the Canadian Forest Service–Natural Resources Canada at the Laurentian Forestry Centre in Québec City, Quebec. “We hope to establish a network of like-minded scientists within the next two or three years.”

### A growing circumboreal network

De Grandpré and colleagues Timo Kuuluvainen, from the University of Helsinki, and Ekaterina Shorohova, from the Saint-Petersburg State Forest Technical Academy, are working to formalize their partnership in a circumboreal monitoring network.

The network will include scientists, managers, policy developers and other stakeholders concerned about the health of the boreal forest. De Grandpré also wants to build on this solid research base to attract people from the United States, Sweden and China.

“We can learn a lot from each other. Finland has a longer history of forest management than we do. Canada has more forest that has only been subject to natural disturbance. We can offer each other different research opportunities like these,” De Grandpré says. “Each country is also facing different conservation, environmental, social and economic issues that we can study the impact of.”

### Network of permanent forest plots ideal for long-term research

The network would be based on permanent forest plots that permit monitoring of environmental change through time. Long-term studies are especially useful for predicting vegetation changes based on environmental fluctuations and for testing and validating ecological models. Permanent plot studies have rarely been implemented in the boreal forest.

### Overview

De Grandpré and colleagues from Finland and Russia are working to formalize their partnership in a circumboreal monitoring network

Each country has different conservation, environmental, social and economic issues that they can share their knowledge of.

De Grandpré also wants to build on this solid research base to attract people from the United States, Sweden and China.



International delegates tour of a permanent sampling plot in an old-growth black spruce stand in north-eastern Quebec

Another key element of the network is the idea that researchers could start to use the same data collection and analysis methods. This has the potential to deliver significant benefits because it would make comparing results easier and expand the impact of each individual project if it could be easily linked to a wider network of projects.

### **Expanding his network at home while pushing for more circumboreal collaboration**

De Grandpré does fieldwork in the North Shore region of eastern Quebec. He has ten plots of 0.4 hectares and he plans to increase the number of plots to 18. The plots cover old-growth forest and younger stands originating from fire and clear cuts. As a group, they cover the range of forests in the region—mostly balsam fir, black spruce and mixed spruce–fir stands. De Grandpré is focussing on four research themes: biodiversity, ecosystem management, spruce budworm and tracking forest change.

De Grandpré is excited about the prospect of sharing his work through a circumboreal network. “It would be a great opportunity to submit more projects for review in more countries. Imagine the impact if we can start getting Finland, Russia and other countries to use their contacts to expand the network,” he says.



Old balsam fir stand in the Quebec North Shore (>250 years old)

