



# Branching out

from the Canadian Forest Service ■ Laurentian Forestry Centre

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## Climate change: understanding forest carbon cycling

Measurements of atmospheric CO<sub>2</sub>, made twice an hour, around the clock, every day of the year provide the foundation for the work done under the Canadian Carbon Program (CCP), formerly the Fluxnet-Canada Network. Researchers from the Canadian Forest Service of Natural Resources Canada are key participants in this program.

Canada's forests, which represent 10% of the world's forests, contain a great deal of carbon. It follows that small changes in forest carbon pools can have a major impact on the global carbon reservoir. The main goal of the CCP is to investigate how climatic variations, natural disturbances and land use affect carbon exchanges, or fluxes, between forests and the atmosphere. High-precision instruments positioned at the top of tall pylons called flux towers measure the quantities of CO<sub>2</sub>, water vapour and energy in the atmosphere.



Flux tower, Chibougamau region.  
Photo: Université Laval

Canada has seven operational flux stations, including one in the Chibougamau region of Quebec. Over the years, the flux towers have provided researchers with data enabling them to conduct various studies, including research on

how freeze-thaw cycles, drought and early or late spring onset affect atmospheric CO<sub>2</sub> levels.

Data from the network of flux stations are analyzed and interpreted, providing important information for determining whether the boreal forest is a source or

a sink of carbon. This information will be used to guide government policy and enable industry and forest communities to implement suitable climate change adaptation strategies.

### USEFUL LINK:

Canadian Carbon Program  
[www.fluxnet-canada.ca](http://www.fluxnet-canada.ca)

### FOR MORE INFORMATION, PLEASE CONTACT:

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FLUXNET, an international network made up of regional networks, co-ordinates regional and international analysis of observations from more than 460 sites (flux towers) on all the continents. FLUXNET has been in operation since 1996. <http://daac.ornl.gov/FLUXNET>

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