

COLLABORATIVE RESEARCH ON CLIMATE CHANGE IN ONTARIO'S NORTHERN BOREAL FOREST: FIRST NATION ENGAGEMENT & PERSPECTIVES



BACKGROUND

Ontario's northern boreal forest, considered by Cree, Ojibwe and Oji-Cree Nations as their territorial homeland, is experiencing the impacts of climate change.

First Nations represented by Nishnawbe Aski Nation (NAN) will be among the first people in Canada to feel the effects of climate change, and those impacts will be greater than those experienced further south.

The research is a **collaboration** through knowledge exchanges between NAN people and the researcher.

The project examines current approaches to lessen climate change and First Nation perspectives to address climate change. Central to the research is documenting First Nation observations of changes in the forest.

RESEARCH METHODOLOGY

The research is Participatory Action Research (PAR); both the researcher and the participants are interrelated.

The study is a two-way information and knowledge exchange between Nishnawbe Aski Nation, First Nation communities, individual community participants and the researcher.

The research follows a "**CREE**" approach: C-capacity building, R-respect, E-equity & E-empowerment.

(Lemelin et al. 2010)



FIRST NATION INVOLVEMENT

Indigenous knowledge of the forest—Traditional Ecological Knowledge (TEK) — and a different "way of knowing" need to be considered in addition to "western science" to address and adapt to climate change.

First Nation peoples' perspectives need to be respected in the decision-making processes affecting their traditional lands and future.



Between January 6 - March 31, 2011 ten (10) First Nation communities in Ontario's north, at latitudes between 51° N and 54° N, collaborated in the research project. The communities in order of the visits were:

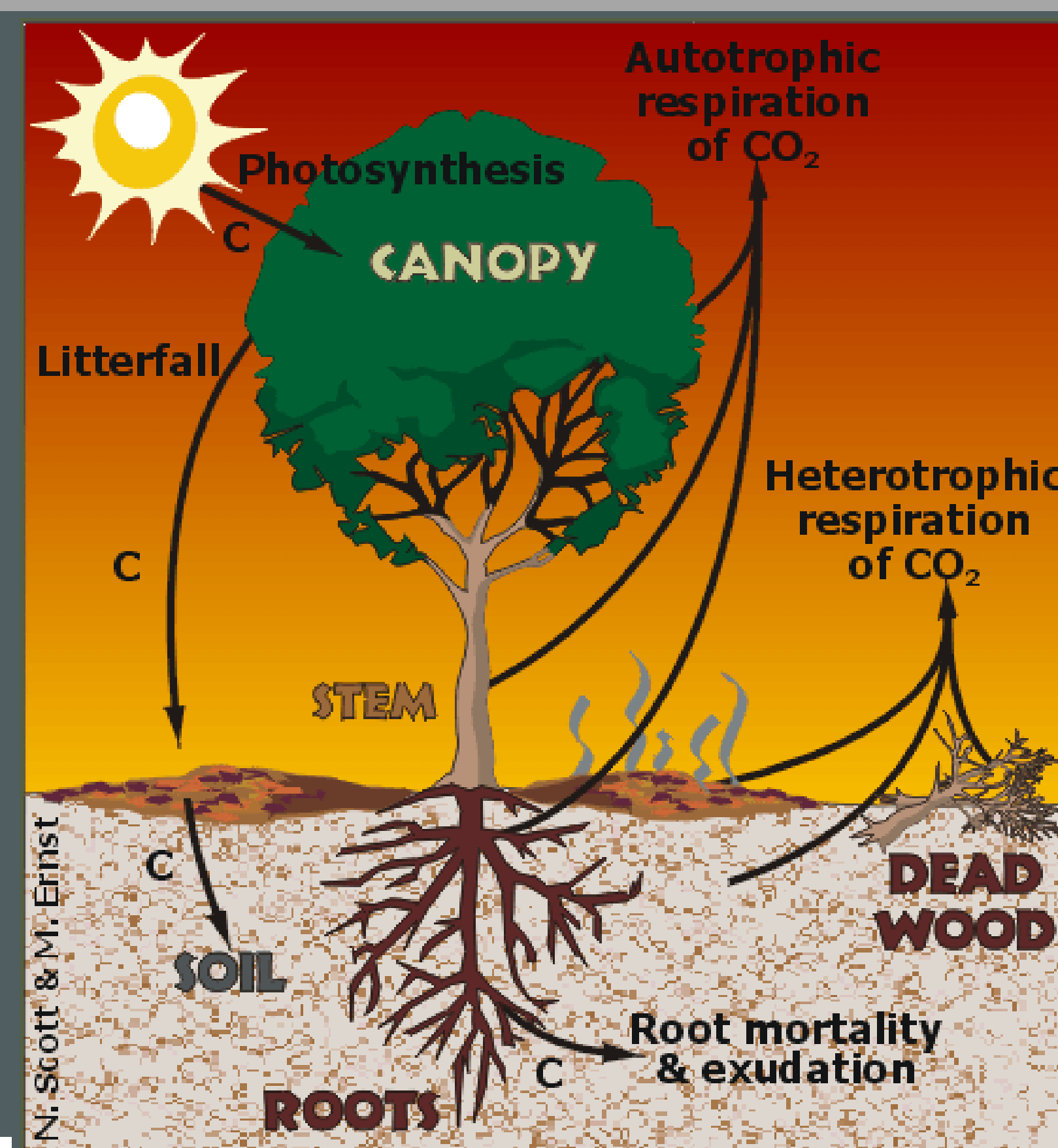
Muskrat Dam, North Caribou Lake/Weagamow, Pikangikum, Sandy Lake, Neskantaga, Nibinamik, Attawapiskat, Fort Albany, Kingfisher Lake & Wunnumin Lake

HOW DO FORESTS LESSEN CLIMATE CHANGE?

Carbon dioxide (CO₂) is taken up from the atmosphere during photosynthesis; this chemical reaction changes CO₂ into "solid carbon" (or forest carbon).

Forest carbon is found in: forest vegetation (trunks, branches, leaves, and roots of trees) and some carbon is transferred to the forest floor and soil.

CO₂ returns to the atmosphere through decaying plants & trees, & natural disturbances (insects, fires).



CURRENT APPROACHES TO ADDRESS CLIMATE CHANGE

UTILIZATION

Increasing forest carbon through management activities such as planting "improved" tree stocks and stored carbon (C) in wood/timber products.



CONSERVATION

Increasing carbon stored in forests through parks or protected areas with no industrial activity allowed.



FIRST NATION OBSERVATIONS OF CHANGES



Photo taken on the winter road between Sachigo Lake & Muskrat Dam January 2011

- Absence of "blue-ice", the "strong ice"
- Amounts and timing of rain & snowfall
- Temperature & seasonal differences
- Animal & bird migrations and species
- Plant growth, harvesting times & availability
- The "sound" of the cold

Impacts of the absence of "blue-ice": food and energy security, transportation & traditional activities



A new bird specie - "Turnstone"
Photo by Ralph Winter, Wunnumin Lake May 2010



Researcher: Denise M. Golden, PhD Candidate Forest Sciences, Faculty of Natural Resources Management, Lakehead University, Thunder Bay, ON dmgolden@lakeheadu.ca Committee Members: Dr. Steve J. Colombo & Dr. M.A. (Peggy) Smith (Joint Supervisors) Lakehead University, Dr. Gary Bull, University of British Columbia & Dr. R. Harvey Lemelin, Lakehead University

Acknowledgements: Nishnawbe Aski Nation (NAN), Carol Audet – past NAN Director Lands & Resources, NSERC Northern Internship Research Program (granted to D. M. Golden), Dr. R. Harvey Lemelin, Associate Professor & SSHRC Research Chair in Parks and Protected Areas, Lakehead University, Dr. M.A. (Peggy) Smith, Associate Professor, SSHRC (standard research grant holder), Dr. Steve Colombo, Research Scientist, Ontario Ministry of Natural Resources (OMNR)