

CFCAS News

Canadian Foundation for Climate and Atmospheric Sciences (CFCAS)



Message from the Executive Director

Over the past few months CFCAS has committed over \$13 million to 5 major new research networks and almost \$2 million to 6 additional projects from its last competition. This brings the Foundation's total support to university-based research to \$109 million. It also fully commits the Foundation's funds. Past investments are yielding rich results: CFCAS is preparing a range of media materials to highlight research achievements and impacts, and to help make the case for a sustained federal investment in climate research. The impacts of climate change are increasingly evident and increasingly costly, as seen in the report of the insurance industry (page 2) and the Ontario Medical Association's report on the health and economic impacts of air pollution. CFCAS has cited these and other impacts in a submission to the Government's 2006 pre-budget consultations, both to reinforce its call for a substantial reinvestment in research and to underline the need for a national strategy for adapting to the effects of a warmer climate.

Dawn Conway

A PEARL at the Pole

The Polar Environment Atmospheric Research Laboratory (PEARL) was officially launched in Eureka, Nunavut July 24, 2006. Representatives of funding bodies, federal departments, international partners and the territorial government joined scientists and Environment Canada officials for the event. CFCAS is funding the scientific program at PEARL through a \$5.5 million grant to the Canadian Network for the Detection of Atmospheric Change (CANDAC), led by Professor James Drummond. PEARL's location – only 1,100 km from the North Pole – provides a unique opportunity to probe the atmosphere to study ozone, air quality and climate change in Canada's high Arctic.



The PEARL facility at Eureka, fjord in background. Inset: Network Leader Jim Drummond (University of Toronto and Dalhousie University), explaining rooftop equipment at PEARL. *Photos: Dawn Conway*

CFCAS Board Appointments

CFCAS is pleased to welcome **Brian Gray** (Assistant Deputy Minister, Science & Technology Branch, Environment Canada) and **Susan Fletcher** (Assistant Deputy Minister, Health Canada) to its Board of Trustees. The terms of **Gordon McBean**, Board Chair, and **Marlon Lewis**, Board Vice-Chair have been extended to 2009. **Geoff Strong**, President of the Canadian Meteorological and Oceanographic Society, represents CMOS on the Board in an ex-officio capacity.

Smog Costs Billions

The Ontario Medical Association has issued a new report that revises its estimates of smog-related costs to health care: *Illness Costs of Air Pollution, 2005-2026 Health & Economic Damage Estimates*. In 2005 there were 5,800 premature deaths in Ontario due to air pollution, with an associated price tag of approximately \$3.4 billion in health and environmental costs. The report notes that health impacts are both pulmonary and cardiovascular, and increase with age.

Risky Business: Insurance Industry Takes on Global Warming

U.S. insurance companies consider climate change perhaps the biggest threat in the history of the vast insurance industry – but also a major source of new business opportunities, according to an August 2006 report by Ceres, a coalition of American investors, environmentalists and public interest groups. 2005 was not

only the warmest year on record, but also a year with unprecedented insured weather-related catastrophe losses worldwide: almost \$80 billion U.S. Hurricane Katrina accounted for a whopping \$45 billion. This is already having serious consequences for insurance availability and affordability and is leading to the devel-

opment of new policies and products to minimize the commercial risk associated with weather-related losses.

Note: According to *Fortune Magazine*, the insurance industry is the world's largest business, with about \$3.4 trillion in annual revenue compared to oil's \$1.6 trillion.

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Fortune Magazine

Economists to PM: Climate Change Plan Needed

In an open letter to the Prime Minister, May 29 2006, over thirty Canadian economists urged the government to establish a clear Climate Change policy. The principles behind the letter state that:

⇒ Climate policy and risk management should be anticipatory, not reactive;

⇒ Mitigation and adaptation must be seen as complementary;

⇒ Voluntary actions to curb emissions do not work;

⇒ A climate policy will improve health and aid energy conservation;

⇒ An (economically and environmentally) effective ‘made-in-Canada’ solution must take international cooperation into account.

The letter went on to state that ignoring international action on climate change will hurt Canada’s global competitiveness.



*“A climate policy will improve health and aid energy conservation...”
Photo: Winter smog over Quebec City, Government of Quebec.*

In Brief

The Annual Meeting of the **International Group of Funding Agencies for Global Change Research** will be held in Montreal from **November 1-3, 2006**. CFCAS and the Natural Sciences and Engineering Research Council are co-hosting the event. IGFA is a forum through which national agencies that fund research on Global Change identify issues of mutual interest and ways to address these through national and when appropriate through coordinated international actions.

On **September 20, 2006**, CFCAS presented a **Brief to the pre-budget consultations of the House of Commons Finance Committee**. The Brief recommended strengthening Canada’s role as a leader in climate and related environmental research by: increasing federal funding for research in universities and federal laboratories; developing a strategy for adapting to climate change; supporting measures for continuous monitoring, archiving and use of scientific and research data

on the environment; and enhancing support for Canadian involvement in major bilateral and international scientific initiatives. The Brief is available at : www.cfcas.org

The **Council of Canadian Academics** released the results of its survey on the **State of S&T in Canada**, on **September 12, 2006**. The report was prepared at the request of the Government to provide context for a federal S&T strategy. The report identifies 4 areas of

scientific and technological strength: Natural Resources S&T; Information and Communications Technologies; Health and related Life Sciences; and Environmental S&T, including hydrology, oceanography and renewable energy technologies. The report is available at www.scienceadvice.ca

Mr. Yvo de Boer of the Netherlands is the new Executive Secretary of the **United Nations Framework Convention on Climate Change (UNFCCC)**. He took up his duties on **September 4, 2006**.

CFCAS Awards—Networks

In June 2006, the CFCAS Board of Trustees approved funding for five new research networks:

Cloud-Aerosol Feedbacks and Climate

Network Leader: Philip Austin, University of British Columbia (\$2,100,000)

The aim of the CAFC network is to integrate cloud and aerosol processes into existing climate models.

Canadian Regional Climate Modelling Diagnostics

Network Leader: Colin Jones, Université du Québec à Montréal (\$2,996,143)

This partnership will develop a new high-resolution regional climate model and new diagnostic techniques for analyzing climate data.

Prediction and Predictability of the Global Atmosphere-Ocean System from Days to Decades

Network Leaders: Keith Thompson & Harold Ritchie, Dalhousie University (\$2,800,000)

The network will link climate data from oceans and the atmosphere to predict change over a wide time range.

Environmental Prediction for Canadian Cities

Network Leaders: James Voogt, University of Western Ontario, & Tim Oke, University of British Columbia (\$1,447,000)

The collaborative work done in this network will define the unique character of 'urban climate' through data collected in two major Canadian cities - Vancouver and Montreal.

Canadian Carbon Program

Network Leader: Hank Margolis, Université Laval (\$4,000,000)

The CCP will address gaps in our understanding of the role forests and peatlands play in the cycling of carbon in the atmosphere.

Other networks approved earlier in 2006 include:

The Canadian SPARC Programme

Network Leader: Theodore Shepherd, University of Toronto (\$3,200,000)

The Canadian Stratospheric Processes and their Role in Climate (SPARC) network will link the Canadian Middle Atmosphere Model and Environment Canada's ocean climate model to produce an ongoing analysis of the state of stratospheric ozone and climate change.

Improved Processes and Parameterization for Prediction in Cold Regions

Network Leader: John Pomeroy, University of Saskatchewan (\$2,500,000)

The network will develop a better understanding of climate processes and surface hydrology in the Rockies and northern territories. This will help improve prediction of atmospheric impacts on water resources and surface climates in cold regions.

CFCAS Awards—Projects

As a result of revised investment returns, the CFCAS Board approved funding for a limited number of additional projects in June 2006. These projects had all been highly recommended in the last funding cycle:

Changes in Scale Net Greenhouse Gas Emissions Due to Land Cover Changes Associated with the Creation of Reservoirs for the Production of Hydroelectricity

Nigel Roulet, McGill University

High Resolution Holocene Climate Derived from Lacustrine Sediment, Cellulose, and Speleothems

William Patterson, University of Saskatchewan

Iron Supply to the Arctic Ocean and its Effect on Productivity, Carbon Cycling and Emission of Climatologically Active Gases

Jay Cullen, University of Victoria

Chemical-Dynamical Studies of the Troposphere and Stratosphere with a High Resolution Model, GEM-Strato

Jacek Kaminski, York University

Kernel Methods for Forecasting Extreme Weather and Seasonal Climate

William Hsieh, University of British Columbia

Internal Waves in an Estuarine Environment: Generation to Mixing

Dan Kelley, Dalhousie University

FUNDING OPPORTUNITY

Sustainable Development Technology Canada (SDTC)

is inviting applications for the development and demonstration of clean technologies projects, particularly as they relate to clean air, soil, water, and climate change. Deadline: **October 11, 2006**. See www.sdtec.ca.

Canadian Foundation for Climate and Atmospheric Sciences (CFCAS)

350 Sparks Street, Suite 901

Ottawa, ON

K1R 7S8

Phone: (613) 238-2223

Fax: (613) 238-2227

Email: info@cfcas.org



WWW.CFCAS.ORG