

MEMBER COUNTRY:

CANADA

National Report to SCAR for year:

2007–2008

Activity	Contact Name	Address	Telephone	Fax	Email	web site
National SCAR Committee						
Canadian Committee on Antarctic Research		Suite 1710, Constitution Square, 360 Albert Street, Ottawa, Ontario, K1R 7X7, Canada	[1](613)943-8605	[1](613)943-8607	mail@polarcom.gc.ca	http://www.polarcom.gc.ca/index.html
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SCAR Delegates						
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Standing Scientific Groups						
Life Sciences						
1) Secretary LSSSG	Dr Kathleen Conlan	Canadian Museum of Nature, Life Sciences, P.O. Box 3443, Station D, Ottawa, Ontario, K1P 6P4, Canada	[1](613)364-4063	[1](613)364-4027	kconlan@mus-nature.ca	http://www.nature.ca/
2)						
3)						
4)						
Geosciences						
1) Member	Dr Wayne Pollard	Department of Geography, McGill University, Burnside Hall, 805 Sherbrooke Street W., Montréal, Quebec, H3A 2K6, Canada	[1](514)398-4454	[1](514)398-7437	wayne.pollard@mcgill.ca	http://www.geog.mcgill.ca/mag2/pollard.htm
2) Member	Prof. Fraser Taylor	Geomatics and Cartographic Research Centre, Carleton University, B349 Loeb, 1125 Colonel By Drive, Ottawa, Ontario, K1S 5B6, Canada	[1](613)520-3979	[1](613)520-2395	fraser_taylor@ccs.carleton.ca	http://www.carleton.ca/gcrc/caap/index.htm
3)						
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Physical Sciences						
1) Member	Dr Thomas S. James	Geological Survey of Canada, Natural Resources Canada, 9860 West Saanich Road, P.O. Box 6000, Sidney, British Columbia, V8L 4B2, Canada	[1](250)363-6403	[1](250)363-6565	tjames@nrca.gc.ca	http://www.pgc.nrcan.gc.ca/geodyn/people/tj_home.htm
2)						
3)						
4)						

Activity	Contact Name	Address	Telephone	Fax	Email	web site
Scientific Research Program						
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AGCS 1) 2) 3) 4)						
EBA 1) 2) 3) 4)	Dr Kathleen Conlan	Canadian Museum of Nature, Life Sciences, P.O. Box 3443, Station D, Ottawa, Ontario, K1P 6P4, Canada	[1](613)364-4063	[1](613)364-4027	kconlan@mus-nature.ca	http://www.nature.ca/
ICESTAR 1) 2) 3) 4)						
SALE 1) 2) 3) 4)						

Activity	Contact Name	Address	Telephone	Fax	Email	web site
ACTION GROUPS						
1) Pelagic Realm Group 2) 3) 4) insert others as needed	Dr Evgeny A. Pakhomov	Department of Earth and Ocean Sciences, University of British Columbia, 6339 Stores Road, Vancouver, British Columbia V6T 1Z4. Canada	[1](604)827-5564	[1](604)822-6088	epakhomov@eos.ubc.ca	http://www.eos.ubc.ca/public/people/faculty/E.Pakhomov.html
EXPERT GROUPS						
1) PPE	Dr Kevin J. Hall	Geography Program, University of Northern British Columbia, 3333 University Way, Prince George, British Columbia, V2N 4Z9, Canada	[1](250)960-5864	[1](250)960-6533	hall@unbc.ca	http://web.unbc.ca/geography/faculty/kevin/
2) PPE	Dr Wayne Pollard	Department of Geography, McGill University, Burnside Hall, 805 Sherbrooke Street W., Montréal, Quebec. H3A 2K6. Canada	[1](514)398-4454	[1](514)398-7437	wayne.pollard@mcgill.ca	http://www.geog.mcgill.ca/mag2/pollard.htm
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4) IBCSO	Dr Ron Macnab	11 Lyngby Avenue, Dartmouth, Nova Scotia. B3A 3T6. Canada	[1](902)463-3963		ron.macnab@ns.sympatico.ca	
5) IPY POLENET	Dr Thomas S. James	Geological Survey of Canada, Natural Resources Canada, 9860 West Saanich Road, P.O. Box 6000, Sidney, British Columbia, V8L 4B2. Canada	[1](250)363-6403	[1](250)363-6565	tjames@nrca.gc.ca	http://www.pgc.nrcan.gc.ca/geodyn/people/tj_home.htm
6) SC-AGI	Peter L. Pulsifer	Geomatics and Cartographic Research Centre, Carleton University, B349 Loeb, 1125 Colonel By Drive, Ottawa, Ontario, K1S 5B6. Canada	[1](613)520-2600	[1](613)520-2395	pulsifer@magma.ca	http://www.carleton.ca/gcra/caap/index.htm
7) SC-AGI	C. Simon L. Ommanney	27 Glen Davis Crescent, Toronto, Ontario, M4E 1X6, Canada	[1](416)686-6307		simon.ommanney@sympatico.ca	From June to September contact phone is [1](705)386-1772
8) IPAB	Dr Christian Haas, Coordinator	Department Earth and Atmospheric Sciences, University of Alberta, Edmonton, Alberta, T6G 2E3. Canada	[1](780)492-8171	[1](780)492-2030	chaas@ualberta.ca	http://easweb.eas.ualberta.ca/index.php?page=14&person=haasc
9) MISMIP insert others as needed	Dr Christian Schoof, Coordinator	Department of Earth and Ocean Sciences, University of British Columbia, Vancouver, British Columbia. V6T 1Z4. Canada	[1](604)822-3603	[1](604)822-6088	cschoof@eos.ubc.ca	
JCADM						

<p>1) Member</p> <p>2)</p>	<p>Peter L. Pulsifer</p>	<p>Geomatics and Cartographic Research Centre, Carleton University, B349 Loeb, 1125 Colonel By Drive, Ottawa, Ontario, K1S 5B6, Canada</p>	<p>[1](613)520-2600 x</p>	<p>[1](613)520-2395</p>	<p>pulsifer@magma.ca</p>	<p>http://www.carleton.ca/gcrc/caap/index.htm</p>
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NATIONAL ANTARCTIC DATA CENTRE

SCAR DATABASE

insert name of database for which your country has responsibility

A BRIEF SUMMARY OF SCIENTIFIC HIGHLIGHTS:

Canadian research in the Antarctic continues to be strongly influenced by the ability of individual scientists to develop partnerships within the scientific programs of other Antarctic nations. Their assistance is greatly appreciated. Canadian work fits within the broad categories of the three Standing Scientific Committees, but is not necessarily specific to any group or project. During the past year Canada's scientists have concentrated on analysis and publication; more than 50 will be attending the SCAR Open Science Conference in St Petersburg. A comprehensive list of publications and reports on Canadian Antarctic work from 2007–08 will be available on the website of the Canadian Polar Commission (<http://www.polarcom.gc.ca>).

In February 2008, a small delegation of Canadians from the Department of Indian and Northern Affairs, headed by Dr Peter Harrison (harrisonp@inac.gc.ca), visited Rothera to seek advice from the British Antarctic Survey on how to develop a world-class polar research facility. Building on the complementary strengths of Canada and the UK, the two countries are now working to establish a Memorandum of Understanding for Cooperation in Polar Research to facilitate the exchange of technical and scientific information, as well as cooperative activities.

LIFE SCIENCES

Dr Kathy Conlan (Canadian Museum of Nature: kconlan@mus-nature.ca) continues as Secretary to the LS-SSG. She has reported on the disturbance, colonization and development of Antarctic benthic communities, and the response of the seastar (*Odontaster validus*) to organic enrichment near McMurdo.

Louise Blight (University of British Columbia: lkbright@interchange.ubc.ca) was at Ross Island from 4 November to 15 December 2007 assisting in a study of long-term penguin population trends (www.penguinscience.com). She has reported the first record of a broad-billed prion (*Pachyptila vittata*) at Coronation Island, South Orkney Islands.

Prof. Julia Foght (University of Alberta: julia.foght@ualberta.ca) is the principal organizer of the 3rd International Conference on Polar and Alpine Microbiology, being hosted by Canada in Banff, Alberta, Canada, from 11–15 May 2008. Five presentations will be reporting results of Canadian Antarctic work.

Prof. Norman P. Hüner (University of Western Ontario: nhuner@uwo.ca) is reporting the results of photoinhibition studies carried out in the McMurdo Dry Valleys.

Prof. Warwick F. Vincent (Université Laval: warwick.vincent@bio.ulaval.ca) and colleagues from the Department of Biology have been analyzing the limnological characteristics of freshwater ecosystems, cyanobacteria in cold environments, and climate controls on underwater UV exposure.

Prof. Patrick J. Walsh (University of Ottawa: pwalsh@uottawa.ca) was at McMurdo Station for three weeks in January 2008 as a collaborator with an NSF-funded project on the effects of ocean acidification on shell formation and acid-base balance in Antarctic pteropod mollusks.

Scientists from the Institut des sciences de la mer de Rimouski (ISMER), Université du Québec à Rimouski, are working on EBA-relevant projects related to climate-warming effects on the biological pump. They are based at the Esperanza Station on the northern tip of the Antarctic Peninsula.

Prof. Evgeny A. Pakhomov (University of British Columbia: epakhomov@eos.ubc.ca) and his group have reported on their studies of macrozooplankton, krill, and pteropods in the Southern Ocean, and Cosmonaut and Lazarev Seas.

Dr Émilien Pelletier (ISMER: emilien_pelletier@uqar.qc.ca), together with French colleagues, has been investigating treatments of diesel oil-contaminated soils in the Kerguelen Archipelago; similar to the study of bioremediation of petroleum hydrocarbons being undertaken by Prof. Steven D. Siciliano (University of Saskatchewan: siciliano@sask.usask.ca) at Macquarie Island.

Prof. Peter Suedfeld (University of British Columbia: jscoates@eos.ubc.ca) has been involved in developing an instrument for the psychological selection of Antarctic personnel.

Prof. John M. Terhune (University of New Brunswick: terhune@unbsj.ca) has analyzed the geographic variation of seal vocalizations recorded in the Weddell Sea and McMurdo Sound areas, while Dr Sebastián P. Luque (Memorial University of Newfoundland: sluque@mun.ca) is investigating Antarctic and subantarctic fur seals.

PHYSICAL SCIENCES

Prof. Don J. McEwen (University of Saskatchewan: don.mcewen@usask.ca) visited McMurdo and the South Pole from 14 December to 4 January 2008 to upgrade and calibrate an auroral photometer. Together with Dr Embry Riddle, of the Aeronautical University, he is working on an NSF-sponsored aeronomy project at South Pole.

Results from the most recent BOOMERANG experiment to map the Cosmic Microwave Background (CMB), carried out by balloon in Antarctica in 2003, are being released by physicists from the universities of Toronto and Alberta in collaboration with other international investigators.

The Atmospheric Chemistry Experiment (ACE) is a Canadian satellite making global measurements that are used to investigate chemical and dynamical processes in the Earth's atmosphere; one of the main instruments is the Fourier Transform Spectrometer (FTS). Physicists from the universities of Dalhousie, Saskatchewan, Toronto, Waterloo, Western Ontario, York, and the Meteorological Service of Canada are working with international colleagues to shed light on the composition of, and changes in, the Antarctic atmosphere.

Dr Graeme J. Nott (Dalhousie University graeme.nott@dal.ca) has been working on the effects of gravity waves on polar mesospheric clouds in Antarctica, particularly at Rothera and the South Pole.

Dr Martin Sharp (University of Alberta: martin.sharp@ualberta.ca) was on the McMurdo Ice Shelf in January 2007 with Professor Sean Fitzsimons (University of Otago, New Zealand) and Dr Denis Samyn (Université Libre de Bruxelles, Belgium). They are studying the structure and geomorphological processes at the margin of the ice shelf, where it runs aground against Minna Bluff, and the biogeochemistry of melt ponds on the ice-shelf surface. Work was supported by Antarctica New Zealand.

Dr Christian Schoof (University of British Columbia: cschoof@eos.ubc.ca) is coordinating the Marine Ice Sheet Model Intercomparison Project which is part of the Ice Sheet Model Intercomparison Project (<http://homepages.vub.ac.be/~phuybrec/ismip.html>).

Scientists at Environment Canada's Canadian Centre for Climate Modelling and Analysis and the School of Earth and Ocean Sciences at the University of Victoria have published results of their work on Southern Hemisphere winds and Southern Ocean warming.

Dr Christian Haas (University of Alberta: chaas@ualberta.ca), as coordinator of the SCAR/WCRP International Programme for Antarctic Buoys, is helping maintain a network of drifting buoys in the Southern Ocean to provide meteorological and oceanographic data for real-time operational requirements and research purposes (www.ipab.aq).

GEOSCIENCES

Dr Thomas S. James (Geological Survey of Canada: tjames@nrcan.gc.ca) has been analyzing data for the US NSF-led Transantarctic Mountains Deformation Project (TAMDEF; P.I. Terry Wilson, Ohio State University) that sheds light on crustal motion in Antarctica and glacio-isostatic adjustment. He advised Mike Willis on glacio-isostatic modelling for his recently-completed Ph.D. dissertation at Ohio State University. James' Ph.D. student, Karen Simon (University of Victoria: ksimon@uvic.ca), is modifying the glacio-isostatic modelling code to carry out further analysis.

Prof. Douglas Schmitt (University of Alberta: doug@phys.ualberta.ca) assisted with hydraulic fracturing crustal stress measurements in both the ANDRILL (ANTarctic geological DRILLing) McMurdo Ice Shelf (MIS) and Southern McMurdo Sound (SMS) NSF-sponsored projects. 130 m of hole were drilled at the bottom of the SMS hole and a successful series of measurements made. These data are now being analyzed.

Prof. Kevin J. Hall (University of Northern British Columbia: hall@unbc.ca), a member of the Editorial Board of *Antarctic Science*, has been publishing reports on his investigations of weathering in cold environments and an analysis of the Falkland Islands stone runs. He will be returning to the sub-Antarctic Marion Island again with the South African National Antarctic programme after an absence of 30 years.

In collaboration with Antarctica New Zealand, Dr Ed Gregorich (Agriculture and Agri-Food Canada: gregoriche@agr.gc.ca) has been working on the effects of redistributed lacustrine detritus from Lake Colleen in the Garwood Valley, Ross Dependency.

Prof. Martin Roy (Université du Québec à Montréal: roy.martin@uqam.ca) has been tracing the provenance of glacio-marine sediments around Antarctica.

Volcanism in the Kerguelen Archipelago is the subject of investigations by Prof. James Scoates (University of British Columbia: jscoates@eos.ubc.ca) and his colleagues.

GEOGRAPHIC INFORMATION

The Geomatics and Cartographic Research Centre of Carleton University, led by Prof. D. R. Fraser Taylor (fraser_taylor@ccs.carleton.ca) and Lead Researcher, Peter Pulsifer (pulsifer@magma.ca), has developed four prototype modules for the Cybercartographic Atlas of Antarctica: Territorial Claims; Antarctic Exploration; Sea Ice; and Antarctic Politics.

Profs Patrick T. Maher (University of Northern British Columbia: maherp@unbc.ca) and Alain A. Grenier (Université du Québec à Montréal: grenier.alain@uqam.ca) are contributing to the ongoing discussion and analysis of polar tourism.