Linking Science Education to Arctic Climate Change Research

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Background

In 2002, a network of Canadian Arctic scientists connected to the Canadian Arctic Shelf Exchange Study (CASES) and ArcticNet, supported the concept of creating an outreach program that would increase awareness of research activities in the North and introduce young Canadians, from coast-to-coast-to-coast, to the many opportunities that exist in the areas of Arctic sciences, research and engineering. Schools on Board was created to promote Arctic sciences through classroom materials and fieldwork opportunities - stimulating greater communication and face-to-face interactions between scientists and students.

Scientists have opened their doors to schools - providing spaces onboard the *CCGS Amundsen*, Canada's state-of-the-art research icebreaker, and inviting them to participate in the day-to-day activities of an Arctic field program!

Program Description

Schools on Board is a national outreach initiative developed to engage schools and communities in Arctic sciences. It aims to:

- promote and expand Arctic sciences in high school science programs across the country
- link high schools to Canada's Arctic research community
- increase public awareness to the environmental importance of our Canadian Arctic
- showcase major Canadian research initiatives in the Arctic
- inspire the next generation of Arctic scientists.

UofM Outreach Award 2005-06!

Components

Schools on Board Network - A communication tool used to link schools to one another and to Arctic research programs. The network provides schools with:

- Information on valuable resources
- Contacts in the research community
- Information on upcoming field opportunities in the Arctic - linked to recognized university and government research programs (CASES/ArcticNet).

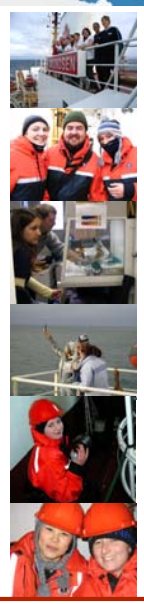
Field Program - Each year, a team of high school students and teachers is selected from across Canada to participate in a research program onboard the *CCGS Amundsen*. The field program includes:

- Travel to the Arctic
- Cultural exposure to northern Canada
- Accommodation onboard the icebreaker
- Lectures by nationally and internationally recognized scientists
- Fieldwork and lab activities with researchers and graduate students
- and much more…

Arctic Climate Change Youth Forum (ACCYF)

- Held every two years in conjunction with an affiliated science meeting.
- Introducing high school and undergraduate students to the sciences behind Arctic climate change research.
- Involvement of the science community.
- Research stream offering science enthusiasts the opportunity to attend and present a poster at the science meeting.
- Organized by youth for youth!

2005 Field Program



Schools

- Kugluktuk High School, Kugluktuk, NU - 1 teacher 1 student
- Chetwynd Secondary School, Chetwynd, BC - 1 student
- Central Middle School, Dawson Creek, BC - 1 teacher
- Westwood Collegiate, Winnipeg, MB - 1teacher 1 student
- Windsor Park Collegiate, Winnipeg, MB - 1 student
- Duke of Marlborough School, Churchill, MB - 1 student
- Jens Haven Memorial, Nain, NF - 1 student

Itinerary - October 11-29, 2005

- Ground transport and train travel to Churchill, MB
- Educational and cultural activities at the Churchill Northern Studies Center (CNSC)
- 13 days onboard the icebreaker
- Churchill to Quebec City
- Lectures, fieldwork and lab activities related to:
  Meteorology, Physical Oceanography, Biology, Zoology, Contaminants, Marine Geology, Sea birds and Marine Mammals, Climate Change, and the Canadian Coast Guard Service.
- Historical and cultural activities in Quebec City
- School presentations in Churchill and Quebec City

Outreach

- 40 presentation and counting!
- Articles in local newspapers
- Live radio interviews with CBC radio
- Television interviews with CTV
- Interviews and film footage with Météo Média (Weather Channel)
- Inclusion in footage for the ArcticNet documentary (in production)
- Conference call linking schools to the Amundsen
- Visit our 'Expedition Logbook' at: www.arcticnet.ulaval.ca

Arctic Climate Change Youth Forum (ACCYF)

February 13-14, 2006
Winnipeg, Manitoba

- Youth-oriented
- Day-long conference
- Raising awareness of climate change
- Showcasing ongoing scientific research in Canada's Arctic

- Co-hosted by Schools on Board and Grant Park High School
- Coinciding with the CASES (Canadian Arctic Shelf Exchange Study) science meeting
- Featuring keynote speakers and presentations from scientists on the forefront of Arctic research.

More information and on-line registration at:
www.wsd1.org/grantpark/accyf

NSERC CRSNG

Canadian Arctic Shelf Exchange Study

IPY - International Polar Year - (2007-2009)

Schools on Board goes International with the Canadian Flaw Lead (CFL) System Study (proposed)!

The Schools on Board program has been included in the CFL proposal - a plan for a $20M Canadian-led international research network created to examine the physical-biological coupling within the flaw lead system near Banks Island in the Western Canadian High Arctic. The proposal includes participation by over 150 co-investigators from 11 countries. A successful proposal will result in the following Schools on Board initiatives:

International Network
- Scientists, schools, agencies

International Lesson Plans

International Field Program
- 2 Trips
- 12 Participants per trip
- 1 Teacher & Student from each participating country

International ACCYF
- In conjunction with Field Program or science meeting.
- International perspective on Arctic Climate Change

Educators and scientists working together during IPY…

- Guest lectures in science classes
- Judging at school science fairs
- Communicating and sharing resources
- Developing teaching materials and resource
- Participation in the Schools on Board Field Program
- Presentations to northern communities when traveling in the Arctic
- Participation in the Arctic Climate Change Youth Forum
- Communicating and sharing outreach ideas & initiatives
- Inviting schools to a science meeting or conference
- Becoming a mentor to a student or teacher
- Joining the Schools on Board Network
- Writing a story, creating a book
- Producing a video or slide show
- Working with the media
- share your idea - send me an email…

For more information contact:
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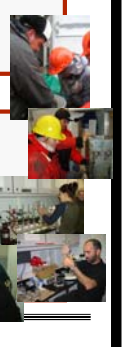

Acknowledgment

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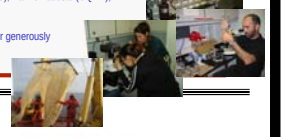
Many thanks for sharing your passion for science with our students, teachers and schools!



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Exploring Science in the Arctic!

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