

**Canadian Geoscience Education Network**  
Minutes for May 26, 1999 Meeting  
Sudbury

*Present: Jennifer Bates, John Gartner, Fran Haidl, Kathleen Kemp, Brenda Koziol, Ward Neale, Godfrey Nowlan, Paul Robinson (Chair), Dave Rudkin, Peter Russell, Pierrette Tremblay, Cam Tsujita, Christy Vodden.*

*Regrets: John Clague, Pat Dillon, Jon Dudley, Alan Morgan, Toon Pronk, Bob Turner, Vic Tyrer, Graham Williams*

**1. Opening of Meeting/Approval of Agenda** In his welcoming remarks, Paul Robinson, introduced the incoming CGEN Executive:

President: Paul Robinson  
Vice-President: Graham Williams  
Past President: Pierrette Tremblay  
Secretary-Treasurer: Christy Vodden  
Members: John Clague  
Fran Haidl

For the benefit of all CGEN participants, a copy of the Terms of Reference is attached as Appendix A (these were last revised in 1993, and require some minor updates). CGEN also warmly thanked Pierrette Tremblay for the leadership, vision and enthusiasm that she brought to CGEN during her tenure as President. (Note: Pierrette was the 1999 recipient of the GAC Ward Neale Award, which is given for outstanding achievement in promoting public awareness of science. Congratulations, Pierrette!).

Two items were added to the agenda: CGEN Home Page and Careers in Geoscience. Both were discussed under item 11: "New Projects and Future Plans for CGEN".

**2./3. Approval of Minutes from October 1998 Meeting/Follow-up**

The minutes were unanimously approved following a motion by Fran Haidl, seconded by Jennifer Bates. There was no review of actions from the last meeting as most significant items were on the agenda.

**4. EdGEO Report** (see Appendix B) Fran Haidl reported that 16 workshops were scheduled for the coming year, happily reversing a decline noted in 1998. In discussing the financial statement, she explained that the closing balance does not reflect all expenditures and that the balance going into 1999-00 is around \$22,000. Funding for 1999-00 is in reasonable shape, with allocations expected from GAC, CSPG and CGC. If growth of EdGEO continues at this year's pace, funds from new sources will have to be raised for 2000-01.

The EdGEO report includes a copy of the approved EdGEO workshop evaluation form, which

all workshop participants will be asked to fill out. Fran also handed out copies of the second edition of the EdGEO newsletter. As with the first edition, CGEN members should continue to distribute promotional copies of the newsletter (master copy attached for photocopying).  
(Action: All)

**5. EarthNet Report** (see Appendix C) Jennifer Bates reported that EarthNet had a very successful year, thanks to funding received from the ResSources GSC initiative of the Geological Survey of Canada and from the Geological Association of Canada. The funds were used to hire three contractors for six months, enabling the development of many new features (downloadable activities, glossary, chat room, calendar of events, etc.) and a dynamic new look for EarthNet. The address was also simplified: <http://agc.bio.ns.ca/EarthNet>; CGEN members recommended that an even simpler address be sought. (Action: Jennifer Bates)

Publicity is moving forward with exposure at EdGEO workshops and at teachers and geoscience conferences. Daily hits are in the 150-200 range. A national launch will be pegged to the site going bilingual. An EarthNet advisory committee is now in place with a mandate to provide strategic direction and to recommend new initiatives. CGEN members were thanked for their valuable contribution of resource materials and encouraged to continue sending materials to Jennifer. (Action: All)

To ensure that EarthNet is readily accessible to CGEN members, a list server will be set up. Jennifer will send out monthly information updates and reminders about the need for new resource information. An optional email subscription could be added to inform anyone interested in EarthNet of new additions to the site. (Action: Jennifer Bates)

For continued future growth of the site, Jennifer explained that EarthNet needs a secure funding base of about \$25,000 a year. To accommodate this, CGEN suggested that EarthNet may have to be the subject of targeted corporate fundraising, and that a multi-year business plan would be an essential tool. CGEN would be willing to provide strong letters of support. (Action: Jennifer Bates)

**6. Allocation of GAC Funding** Jon Dudley, Chair of the GAC Education Committee, advised CGEN that the GAC Council had agreed to make a grant of \$7,500 to CGEN "to be divided between EdGEO and EarthNet at CGEN's discretion in accord with the relative need of the two programs".

Following a motion by Pierrette Tremblay, seconded by Peter Russell, CGEN unanimously agreed that the division of funds would mirror that of past years with \$4,500 going to EdGEO and \$3,000 to EarthNet. CGEN members requested that a strong thank you be sent to the GAC for its continuing support of education initiatives in Canada. (Action: Paul Robinson)

**7. Michael Smith Award** The renomination of EdGEO to the Michael Smith Award for Public Awareness of Science was discussed, and CGEN agreed that this should go ahead. The previous nomination had been considered a strong candidate by the award review

committee. A national award of this stature would add prestige to EdGEO and raise its profile in educational circles. (*Action: Christy Vodden and Fran Haidl to update the 1997 documents; Ward Neale and Paul Robinson to review*)

**8. Public Awareness of Science in Canada** As part of CGEN's efforts to build stronger public awareness of earth science in Canada, Pierrette Tremblay developed a draft list of organizations and people who are active across the country doing public awareness activities. This was tabled at the May 1998 meeting, with a request to CGEN members for comment on its scope and contents. A few helpful comments were received, but more work remains to update and balance the information in the listing. (*Action: Pierrette Tremblay*)

The revised listing will be posted on the CGEN website.

**9. Geoscied** The third Geoscied conference will be held in Australia, January 16-21, 2000. Four CGEN members will be attending: Kathleen Kemp, Paul Robinson, Dave Rudkin and Alan Morgan, along with Eileen Van Der Flier-Keller, University of Victoria, who will give a talk on EdGEO (see Appendix D concerning early bird registration).

Alan Morgan, who has put a bid forward that the fourth Geoscied be held in Canada in 2003, requested CGEN support for the initiative. CGEN discussed both the positive and negative sides of hosting the conference: while it will offer an opportunity to put the spotlight on Canadian geoscience education activities, it will require time and money commitments from a limited resource base. Following a motion by Paul Robinson, and seconded by Peter Russell, CGEN unanimously agreed to support the event on the understanding that it contain a strong core national program and bring benefits to Canadian educators, in line with educational and public awareness goals of the Canadian geoscience community.

Expressions of interest to host the event have been received from Calgary and Waterloo. CGEN felt that Calgary had additional benefits as a venue.

**10. GeoCanada 2000** Godfrey Nowlan described the many educational and public components planned for this major conference, May 29 - June 2, 2000:

- high-profile science popularizers such as Bill Nye the Science Guy are being considered.
- John Clague and Bob Turner, as a CGEN-sponsored initiative, are putting on a special session that will focus on major geoscience issues relevant to urban areas of Canada.
- a two-day session on Earth Science and Society will pull together scientists, politicians, nature leaders, media, etc.
- a two-day Lithoprobe session will have some public sections.

- special earth science collections from various Canadian science agencies and museums will be on display.

The possibility of putting on an EdGEO workshop was discussed. CGEN agreed that the Ottawa'97 model of bringing teachers in from across the country, with funding raised by CGEN members, would be appropriate for this conference. Fran Haidl agreed to help organize the workshop. *(Action: Fran Haidl to follow up with Dixon Edwards; CGEN members to identify teachers and funding from their province)*

It was also noted that GeoCanada 2000 will be an excellent venue for showcasing CGEN.

### **11. New Projects and Future Plans for CGEN**

A wide range of excellent projects were suggested for future support from CGEN. There were also some key strategic operational ideas put forward that will help strengthen the effectiveness of CGEN as a national group. Time was regrettably brief for this discussion, and it will be revisited at the next CGEN meeting.

CGEN Strategic Plan: All agreed that CGEN would benefit from a long-term strategic plan, and that this should be presented to the CGC Executive. As CGEN resources (both time and money) are limited, the role of CGEN as a catalyst and focus for new projects must be clearly defined. Fundraising strategies must be dovetailed with overall CGC plans. Publicity of CGEN should be enhanced. *(Action: Paul Robinson to prepare draft for discussion)*

CGEN Website: The CGEN website needs updating, and developing as a dynamic resource for CGEN members. *(Action: Paul Robinson to discuss CGEN web presence with Alan Morgan and CGC Executive)*

Careers in Geoscience: Print and online versions of this CGC product are in need of update. They are an extremely valuable handout, in much demand by educators and students. CGEN members noted that both paper and digital copies were needed. *(Action: Christy Vodden to develop concept for next edition with Alan Morgan and Godfrey Nowlan)*

Project ideas: An ambitious listing of initiatives was suggested by CGEN members, including short videos on minerals and plate tectonics, popular guides to the geology of parks and other touristic sites, articles in the new "Geoscience Canada" series showcasing outreach activities, publicity posters for CGEN, etc. Further discussion is required at the next meeting.

### **12. Information Exchange**

CGEN members not present at future annual meetings are encouraged to submit reports of their education and outreach activities to Christy Vodden. Reports and information items tabled at the meeting were:

- Atlantic Geoscience Society (Graham Williams): See Appendix E. Main projects are a new field guide "Discovering Rocks, Minerals, Fossils in Atlantic Canada", the annual Nova Scotia



EdGEO workshop, EarthNet, and a popular book on the geology of the Maritimes "The Last Billion Years" (due out in 2000).

■ CANQUA and New Brunswick activities (Toon Pronk): CANQUA has not been very active on the educational front, but there have been some interesting activities in New Brunswick linked to connections with the New Brunswick museum, Mining Week, and urban field trips to look at stone buildings "Get Stoned". EdGEO workshop still in the plans.

■ Earth Science Week, October 10-16, 1999 (Alan Morgan): The CGC and American Geological Institute have produced an Earth Science Week poster that will be distributed to schools starting in late June. The CGC has ordered 5,000 copies (to see poster visit [www.science@uwaterloo.ca/earth/cgc/cgc.html](http://www.science@uwaterloo.ca/earth/cgc/cgc.html)). Anyone wishing to distribute copies should email Alan Morgan ([avmorgan@uwaterloo.ca](mailto:avmorgan@uwaterloo.ca)).

■ Geoscape Toronto (Dave Rudkin, John Gartner): The Geoscape project for the Greater Toronto Area is moving ahead at a good pace. Very productive planning sessions have identified the content to be covered, a flyer publicizing the project is available, and a website is online: [www.toronto.geoscape.org](http://www.toronto.geoscape.org)

■ Geological Survey of Canada (Christy Vodden): See Appendix F. New, improved GSC website was launched, and ResSources GSC initiative has been catalyst and funder of many exciting new sites, many with educational components. Strong presence and great new connections made across country at teachers and community events (over 40,000 people attended four GSC open houses). Excellent media coverage throughout year, with the highlight being the naming by Macleans Magazine of William Logan as the most influential scientist in Canadian history.

■ Mining Matters/PDAC (Patrica Dillon): The new "Deeper and Deeper" unit is nearing completion. It will help Grade 4 teachers in their efforts to introduce the subjects: rocks, minerals and erosion as required under the new Ontario curriculum. Kits will be ready for distribution in the fall. The Mining Matters website is at [www.pdac.ca/miningmatters](http://www.pdac.ca/miningmatters).

■ Ontario Science Centre (Vic Tyrer): Report emailed to CGEN members. GeoFest programs have attracted good crowds and excellent feedback. OSC had a good presence at the Science Teachers Association of Ontario conference and at the Cottage Life Show. For information, Vic has just made a career change -- he has joined the Ontario Ministry of Energy, Science and Technology as a Senior Adviser for the Science and Technology Awareness and Innovation Office.

■ Ontario Assoc. of Geographic & Environment Education (Rob Lord): The OAGEE will hold its 50th anniversary meeting, October 22-23, 1999 in Orangeville, Ontario, and is expecting 450 registrants. The theme is "Mapping the New Millennium". The Program Chair is Susan Hopkins VanZant, telephone: 905-846-6060, fax: 905-584-9423, email [vanzant@hurontario.net](mailto:vanzant@hurontario.net).

■ Royal Ontario Museum (Dave Rudkin): See Appendix G. ROM's new flagship exhibit *DYNAMIC EARTH: INCO LTD. GALLERY OF EARTH SCIENCES*, will open May 30, with great public and media fanfare. New paleontology exhibit has been delayed, but is still in the works. Educational programming was very successful, including "Stones and Bones" ID clinics, family fossil collecting outings and other field trips, public presentations, and Valentine's Day (adults only) and March Break activities.

■ University of Waterloo (Peter Russell): See Appendix H. Another productive year for the Earth Sciences Museum, with a many presentations at community events and teachers conferences, connections with other museums, and an EdGEO workshop.

**12. Next Meeting** To be scheduled in conjunction with Cordilleran Roundup, in Vancouver in late January.

Christy Vodden  
May 31, 1999

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**Summary of Actions Arising from Meeting  
May 26, 1999, Sudbury**

1. CGEN members should continue to distribute promotional copies of the EdGEO newsletter (master copy attached for photocopying).
2. Jennifer Bates to investigate simpler EarthNet URL and set up list server for CGEN members.
3. CGEN members are to continue sending ideas of educational resource materials to Jennifer Bates for inclusion in EarthNet.
4. Paul Robinson to send strong thank you note to the GAC commending its continuing support of education initiatives in Canada.
5. Christy Vodden and Fran Haidl to update the 1997 documents nominating EdGEO for the Michael Smith Public Awareness Award; Ward Neale and Paul Robinson to review.
6. Pierrette Tremblay to update and refine the draft list of organizations and people who are active across the country doing public awareness activities.
7. Fran Haidl, with Dixon Edwards, to organize an EdGEO workshop for GeoCanada 2000.
8. CGEN members to identify teachers and funding from their province for the GeoCanada 2000 EdGEO workshop.
9. Paul Robinson to prepare draft long-term strategic plan for CGEN for discussion at next meeting.
10. Paul Robinson to discuss CGEN web presence with Alan Morgan and CGC Executive.
11. Christy Vodden, with Alan Morgan and Godfrey Nowlan, to develop concept for next edition of Careers in Geoscience.

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TELEFAX MESSAGE	
TO: <i>Christy Vodden</i>	FAX: 613-995-3082
ADDRESS/ROOM: GSC	
FROM: <i>Godfrey S. Nowlan</i> <i>Paleontology Subdivision</i>	DATE: 2 June 1999
NUMBER OF PAGES INCLUDING THIS PAGE: 3	

SUBJECT: CGEN TERMS OF REFERENCE

Attached are the CGEN Terms of Reference written by Laing Ferguson. He may have a digital version, but I am afraid that I do not. The only changes that have been formally made are as follows:

1. Name change from CGE Board to GGE Network
2. Inclusion of Past Chairman on the Executive

Hope this helps.



(A)

REVISED

TERMS OF REFERENCE  
FOR THE CANADIAN GEOSCIENCE EDUCATION BOARD

1. THE BOARD WILL BE CONCERNED WITH ALL LEVELS OF GEOSCIENCE EDUCATION IN CANADA AND WILL ENCOURAGE PUBLIC AWARENESS OF GEOSCIENCE ACTIVITIES

It will promote the teaching of Geoscience in all levels of school and University, and the continuing education of qualified geoscientists, as well as activities directed towards increasing the general public's appreciation and understanding of the Earth on which they live and its importance to the environment.

2. THE BOARD WILL ATTEMPT TO COORDINATE THE EFFORTS OF THE CANADIAN GEOSCIENCE COMMUNITY IN MATTERS RELATED TO GEOSCIENCE EDUCATION AND PUBLIC AWARENESS OF GEOSCIENCE

Such coordination will be achieved through exchange of information between the member groups or bodies regarding their current activities and practices and any new initiatives they propose. This should help avoid unnecessary duplication of effort and may also reveal opportunities for certain activities to be undertaken in certain areas where at present there are none. This could include geographic coverage (e.g. something not being done in certain regions or Provinces) or subject area (e.g. no Hydrogeology being taught).

3. THE BOARD WILL ACT AS A FORUM FOR DISCUSSION OF MATTERS RELATED TO GEOSCIENCE EDUCATION IN CANADA

The board will provide opportunities for the exchange of viewpoints and the discussion of any topics pertinent to Geoscience Education.

4. THE BOARD WILL ATTEMPT TO INITIATE COORDINATED ACTIVITIES RELATED TO GEOSCIENCE EDUCATION

I.e. It may suggest activities that could be pursued by any or all of the member groups as appropriate.

5. THE BOARD WILL LIAISE WITH OTHER SIMILAR BODIES IN OTHER COUNTRIES AS APPROPRIATE (e.g. U.K. and U.S.A.)

The recently formed Earth Science Education Forum in Britain appears to have many of the functions of the Canadian Geoscience Education Board. In the U.S., liaison with the American Geological Institute, GSA's Scientific Awareness through Geoscience Education Program (SAGE) and the Coalition for Earth Science Education (CESE) will be essential.

## COMPOSITION OF THE BOARD

The Board, composed of individuals appointed by CGC, should have representation from all those segments of the Geoscience Community which are actively engaged in or concerned with Geoscience in Canada e.g. the Chairs of the Education Committees and/or any Public Awareness of Science committees of the thirteen member societies of the Canadian Geoscience Council (all thirteen need not necessarily be involved). The Director of CGC's EdGEO programme should be a member of the Board ex officio along with a member of the CGC Executive.

Other regional societies active in education and P.A.S. matters could also be represented (e.g. Atlantic Geoscience Society, Edmonton Geological Society, etc.) although they are not CGC Member societies *per se*.

Four of the five "Associate Members" of the CGC should also be represented on the Board viz. The Geological Survey of Canada, The Royal Society of Canada (Earth Sciences Division), the Council of Chairs of Canadian Earth Science Departments and the Committee of Provincial Geologists.

Other bodies which could be represented on the Board (or possibly just kept advised of its deliberations and occasional requests for input) include NSERC and Environment Canada as well as major Museums (ROM and Royal Tyrrell, etc.).

It is anticipated that the full Board (of perhaps twenty members) would only meet once or twice a year (possibly in conjunction with the annual GAC/MAC meetings).

## EXECUTIVE OF THE BOARD

The Board should have an Executive consisting of a Chairperson, a Vice-Chairman, a Secretary-Treasurer and possibly two other members.

A member of the Executive should be in a particular office for no more than three years and provision should be made for succession and a reasonable turnover of the Executive.

The Chairperson of the CGEB would report directly to the Canadian Geoscience Council.

(Revised, mid January 1993 after C.G.C.'s Ottawa meeting.)

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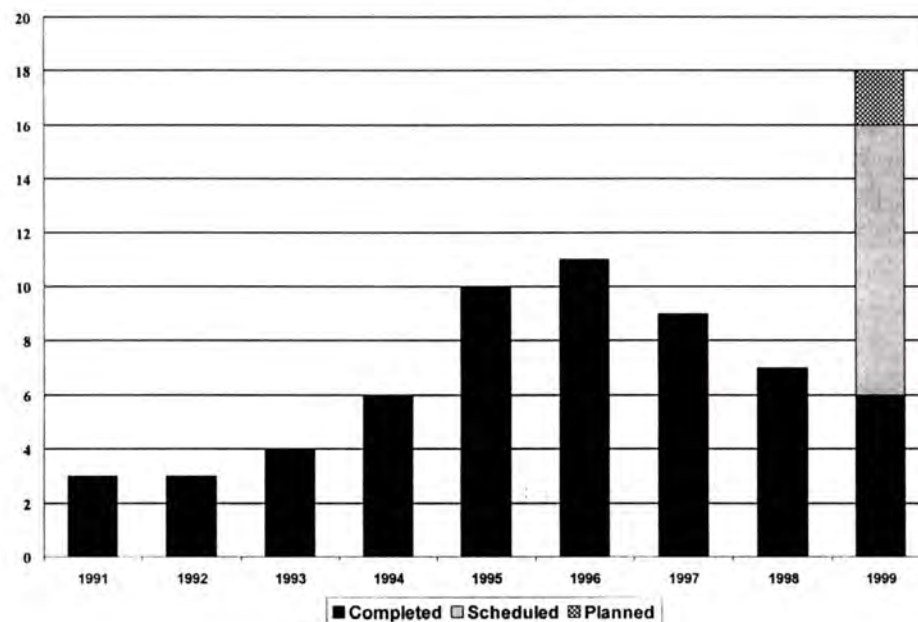
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## EdGEO Workshops 1991 to 1999



## 1998 EdGEO Workshops

Location	Number of Participants	Budgeted Expenditures	Actual Expenditures	Actual Revenue	EdGEO Grant	Other Fund
Victoria BC	28	\$1065.58	\$1077.90	\$1077.90	\$ 661.83	None
Red Deer AB	20	\$1150.00	\$1334.31	\$1448.50	\$1048.50	\$114.19
Drumheller AB	15	\$7000.00	\$5750.00	\$5750.00	\$2000.00	None
Regina SK	25	\$4715.00	\$3716.01	\$4425.00	\$3000.00	\$708.99
Toronto ON	31	\$5500.00	\$1759.61	\$3459.62	\$2700.00	\$1700.01
Truro NS	26	\$4040.00	\$3036.01	\$4090.00	\$1940.00	\$1053.99

0.00

### Notes:

1. EdGEO provided \$7773.15 in funding to 6 workshops attended by 145 teachers at a cost of \$53.61 per teacher.
2. EdGEO co-sponsored a teachers' field trip that was held in conjunction with GAC/MAC 98 in Quebec City; EdGEO funding was \$1750.
3. EdGEO contributed \$1000 toward providing teachers with free copies of the booklet "Toronto Rocks - the Geological Legacy of the Toronto Region".

(tw)





### 1999 EdGEO Workshops January – April

<i>Location</i>	<i>Number of Participants</i>	<i>Budgeted Expenditures</i>	<i>Actual Expenditures</i>	<i>Actual Revenue</i>	<i>EdGEO Grant</i>	<i>EdGEO Balance</i>
<b>Calgary AB</b>	30	\$1372.93	\$1451.21	\$1347.93	\$747.93	none
<b>Calgary AB</b>	28	\$1750.00	\$1762.05	\$1721.90	\$1121.90	none
<b>Calgary AB</b>	13	\$1750.00	\$1442.54	\$1421.90	\$1121.90	none
<b>Edmonton AB<sup>1</sup></b>	15	\$1860.00			\$1290.00	
<b>Hanover ON</b>	20	\$5,794.00	\$6034.01	\$6034.01	\$1700.00	none
<b>Rouyn-Noranda QC<sup>1</sup></b>	40 <sup>2</sup>	\$9360.00			\$3000.00	

### 1999 EdGEO Workshops May - October

<i>Location</i>	<i>Number of Participants</i>	<i>Budgeted Expenditures</i>	<i>Actual Expenditures</i>	<i>Actual Revenue</i>	<i>EdGEO Grant</i>	<i>EdGEO Balance</i>
<b>Vancouver BC</b>	40	\$3102.00			\$1902.00	
<b>Vancouver BC</b>	40	\$3041.50			\$1841.50	
<b>Field BC</b>	20	\$3380.00			\$2500.00	
<b>Drumheller AB</b>	20	\$8000.00			\$3000.00	
<b>Regina SK<sup>3</sup></b>						
<b>Saskatoon SK</b>	25	\$16667.93			\$1667.93	
<b>Hanover ON</b>	20+	\$1418.47			\$1018.47	
<b>Orangeville ON<sup>3</sup></b>						
<b>Sudbury ON</b>	30	\$5495.00			\$3000.00	
<b>Parrsboro NS<sup>3</sup></b>						

<sup>1</sup> Final report not yet submitted

<sup>2</sup> Projected

<sup>3</sup> Scheduled but EdGEO application not yet submitted

Note: Workshops are tentatively planned for Victoria, BC and New Brunswick



## NATIONAL EdGEO WORKSHOP PROGRAM

Financial Report (April 1, 1998 - March 31, 1999)

### Bank Accounts

Royal Bank (Opening Balance)	\$42,059.38
Royal Bank (Closing Balance)	\$38,131.46

### Income

	DR	CR
CSPG		\$12,500.00
GAC		\$4,500.00
CGC		\$5,000.00
Interest		\$86.47
Refund from Workshops		\$1,250.00
	Quebec	
	SMA/SGS	\$36.17
	Regina	\$262.54
	Regina	\$708.99
	Red Deer	\$113.59
<b>Total Income</b>		<b>\$24,457.76</b>

### Expenditures

#### Workshops Sponsored (1998)

Regina EdGEO	\$3,000.00
Nova Scotia EdGEO	\$1,940.00
Edmonton	\$1,290.00
Tyrrell Museum	\$2,000.00
Toronto	\$2,700.00
GAC/MAC Fieldtrip	\$3,000.00
Pacific Section GAC	\$661.83
Calgary Science Network	\$1,048.50
Toronto Rocks	\$1,000.00
Calgary Science Network	\$747.93
Ontario	\$1,700.00
Burgess Shale	\$2,500.00
Calgary Science Network	\$1,121.90
GAC/MAC Sudbury	\$3,000.00
<b>Total Workshops</b>	<b>\$25,710.16</b>
Bank Charges	\$3.60
Travel	\$1,455.63
Advertising (Newsletter)	\$894.27
Field Trip	\$300.00
Office	\$22.02
<b>Total Expenditures</b>	<b>\$28,385.68</b>

<b>Accounts Receivable:</b>	Toronto	\$1,700.01
	Nova Scotia	\$1,053.99



# EdGEO

## **Here is what teachers are saying about recent EdGEO workshops:**

### **Drumheller 1998: Paleo-Week for Teachers**

- *The resource materials will be valued and re-used for years and by many students.*
- *One of the best professional development activities I have ever been on – and a very enjoyable week.*
- *The resources are amazing and I can't wait to use them this coming year.*
- *This week will help me to "bring the dinosaurs to life" for my students.*

### **Victoria 1998: The Structure of the Earth, and Rocks and Minerals**

- *This workshop offered me a "ready-to-go" unit for my classroom.*
- *Handouts and hands-on activities were excellent. Wonderful samples to work with (and keep).*
- *This workshop was perfect – hands-on, clear, age (grade) appropriate!*
- *The take-home supplies were outstanding and encourage one to "do it" with students right away.*

### **Regina 1998: Rock and Mineral Identification – and More!**

- *I'm so excited about geology.... So much of what I've learned will be immediately applicable with my students.*
- *This workshop really enhanced my understanding of the geology of Saskatchewan.*
- *I feel much better equipped to make this an exciting topic for my students.*
- *Thank you for a great workshop and the resources – myself and students will get countless use from them.*

### **Calgary 1999: Teaching Rocks and Minerals**

- *Great samples and handouts.*
- *One of the very most useful and well presented workshops that I have ever attended.*
- *This was a fantastic in-service! It was practical and useful. I feel prepared to teach this unit.*
- *It was wonderful how the activities match the curriculum.*



**EdGEO**, initiated in the early 1970's, is a Canada-wide program which supports local workshops on earth science for teachers. It is co-ordinated by the Canadian Geoscience Education Network of the Canadian Geoscience Council.

**Statement of Purpose:**

*By providing educational opportunities for today's teachers and, through them, their students, **EdGEO** seeks to cultivate a heightened awareness and appreciation of our planet. The expected result is an improved capacity on the part of Canadians to understand the Earth and to make wise decisions especially with regard to the use of its mineral and energy resources, the maintenance and remediation of the environment, and response to geological hazards.*

**For further Information:**

Please contact:

Fran Haidl  
Chair, National EdGEO Committee  
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201 Dewdney Avenue East  
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or contact any member of the **National EdGEO Committee** listed below:

Name	Affiliation	Phone	FAX	Email
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# NATIONAL EdGEO WORKSHOP PROGRAM

## EVALUATION FORM

NAME: (optional) \_\_\_\_\_

1. What was right about this workshop?

2. What was wrong about this workshop?

3. Overall Rating for Workshop

Outstanding    Excellent    Very Good    Good    Moderately Good    Fair    Poor

4. General Comments





## THE CANADIAN GEOSCIENCE COMMUNITY DEVELOPS A VIRTUAL RESOURCE CENTRE FOR EARTH SCIENCE EDUCATORS

- A Report to the Canadian Geoscience Education Network on the Status of the EarthNet Project -

The Canadian geoscience community, primarily through the membership of the Canadian Geoscience Education Network (CGEN), is building an online information centre for teachers, students, home schoolers, community workers, the general public, and the scientific community involved in education outreach. EarthNet is the result. Initially, the website was solely a searchable database of teaching resources, but now it is a virtual resource centre (<http://agc.bio.ns.ca/EarthNet>). Developments accomplished in 1998-99, through generous funding from the CGEN and the Geological Association of Canada, and the ResSources GSC initiative of the Geological Survey of Canada, include: "Classroom Activities" that teachers can download for no cost; an illustrated "Glossary of Terms"; a "Calendar of Events"; "Geology in the Classroom", a Q&A facility; "Earth Science Site of the Week"; "Exploring the Dynamic Earth" that presents earth science topics or themes with animation, video, illustrations, photographs, and text; and "Especially for Teachers" a section particularly for teachers which includes an online forum and chat room.

An on-going gathering of resources, activities, events, photographs, illustrations, and text from volunteer contributors across Canada ensures current and accurate content. Members of the CGEN and the Education Committee of the Atlantic Geoscience Society were the initial contributors and many of these individuals continue to do so today. During 1998-99, this group grew to include many others interested in ensuring the success of EarthNet. Education outreach representatives at universities, museums, science centres, EdGEO workshops, and provincial surveys across Canada assist by providing content and by promoting EarthNet to educators and scientists in their area. This collaborative effort within the geoscience community is critical to the success of EarthNet.

In 1998, presentations made at teacher conferences and workshops in Nova Scotia and Ontario were well received. Many teachers were familiar with the WWW as a reference tool and were eager to obtain information useful in the classroom. Also, talks given at science meetings were met with enthusiastic interest from national and international science communities. A number of these presentations have lead to discussions on probable collaborations.

The EarthNet project is housed at the Geological Survey of Canada (Atlantic) at the Bedford Institute of Oceanography in Dartmouth, Nova Scotia. All website development occurs at GSC Atlantic. Recently, the EarthNet Advisory Committee (EAC) was assembled with volunteer members from the geoscience and education communities. The Committee comprises Jennifer Bates (GSC Atlantic, chair / project manager), Hania Kaczowski (Burton Ettinger School, Halifax), Phil Moir (GSC Atlantic), Godfrey Nowlan (GSC Calgary), John Shimeld (GSC Atlantic), Kathy Silverstein (Queen Elizabeth High School, Halifax), Ian Spooner (Acadia University, Wolfville), Christy Vodden (GSC Ottawa), John Waldron (Saint Mary's University, Halifax), and Graham Williams (GSC Atlantic). The EAC will broadly define the concept of the website, co-ordinate fund raising, and ensure EarthNet's usefulness to its users.

Funding and in kind support from the Canadian geoscience community has made EarthNet possible. Jointly, the Geological Association of Canada, the Canadian Geoscience Education Network, the Canadian Geoscience Council, the Canadian Geological Foundation, the Canadian Society of Petroleum Geologists, the Atlantic Geoscience Society, and the Geological Survey of Canada have supported the project from 1994 to 1999. In 1998, EarthNet became the first recipient of the Jerome H. Remick III Endowment Trust Fund. This grant is now providing bridge funding until hopefully the ResSources GSC funding is renewed for another year. EarthNet remains to be one of CGEN's priority activities and the EAC is grateful to CGEN for its support.

Efforts in 1999-2000 will concentrate on the development of existing sections. New initiatives may include self-guided trips to geological sites across Canada and a section highlighting the local geology of communities. The creation and implementation of a communication plan will lead to a focused promotion of EarthNet to its users. All activities will rely heavily on the established local partnerships between geoscience and education groups that exist throughout Canada.

The goal for EarthNet is to become Canada's gateway to earth science information for teachers, students, the general public, and the scientific community involved in education outreach. To maintain the current level of development, the EAC will seek financial support throughout 1999-2000 from the member societies of the geological community and the Geological Survey of Canada, and will extend requests to yet untapped funding sources. The EAC hopes that the CGEN will continue to support EarthNet as it has in the recent years.

Contributions to, comments on, and assistance with EarthNet are welcome. Please contact me or any of the EAC members.

Jennifer Bates

Chair, EarthNet Advisory Committee

(613-996-6574 - until September 30; 902-426-4386 - otherwise; email - [bates@agc.bio.ns.ca](mailto:bates@agc.bio.ns.ca))

/earthnet/reports/cgen99.txt



### **GeoSciEd III: *Early Bird Registration Deadline Imminent***

Come and experience Australia by participating in the 3rd International Conference of Geoscience Education (GeoSciEdIII) being held in Sydney, 16-21 January 2000. Details and registration forms can be found on the conference www site: [www.agso.gov.au/geoscied/](http://www.agso.gov.au/geoscied/).

The early bird registration closing date for the has been extended until 30 June. If you are intending to register, why not save A\$60 and get your registration in now. The abstract deadline has also been extended.

For more details email the Conference Administrator, Gary Lewis  
([gary.lewis@agso.gov.au](mailto:gary.lewis@agso.gov.au))

Gary Lewis  
Australian Geological Survey Organisation  
Geoscience Awareness Unit  
GPO Box 378  
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If you register, please let Alan Morgan know:

Alan V. Morgan  
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CGC Home Page: <http://www.science.uwaterloo.ca/earth/cgc/cgc.html>



and Environment Canada on coastal zone impacts of sea level rise, and Agriculture and Agri-Food Canada on groundwater issues related to agriculture in the Prairies. The GSC's Metals in the Environment program (MITE) is an example of a partnership that involves governmental and academic and industry. It is linked with Toxic Substances Research Initiative (led by Environment Canada and Health Canada) and the Northern Contaminants Program (led by DIAND). To further the reach and leverage of ESS investment in MITE, ESS will need to develop or enhance partnerships with the Canadian Forest Service, Health Canada, Agriculture and Agri-Food Canada and Environment Canada.

### ***Culture Change***

During the fall of 1998, ESS managers discussed future vision and direction from organizational and program perspectives. The overall consensus of senior managers was that over the next 5 to 10 years, ESS is facing a period of dramatic change for which it needs to be flexible, highly relevant, proactive and politically astute, with a clear and focused understanding of its role in government and the earth sciences community. This is consistent with the findings of the ESS S&T Capacity Study, which indicate that acceptance and commitment to the cultural change will be critical to the future success of the organization. ESS needs to foster and facilitate a culture of flexibility and innovation, partnership and continuous learning.

The major changes foreseen for ESS come mainly from the technological revolution that, through the Internet and the wider use of computers, will place ESS' knowledge about the Canadian landmass and its resources at the fingertips of almost all communities and many Canadians. A new and broader range of clients will put greater demands on ESS expertise and knowledge for a wide range of issues. New products, syntheses and knowledge integration will be demanded. The link between scientific and technical knowledge and policy choices at all levels of government will become more urgent and will have to be communicated quickly in ways that are heard and understood.

The future vision emerging from the deliberations of ESS managers is that ESS will be a national authority and, with its partners, a steward of Canadian earth science information and knowledge. Managers believe that ESS should serve a broader range of clients from decision-makers to communities and citizens, be one of the best managed sectors in government and be an exciting, challenging and satisfying place to work. To achieve this vision, ESS will need to be credible, respected, relevant and responsive. In addition it will need to be well connected within government and externally, well integrated with its partners, and be a good communicator. ESS must be concerned with integrating knowledge from many sources within the organisation and externally, facilitating the development of national standards, widely distributing its information, and providing scientific leadership as appropriate.

To be successful, ESS will have to refine, negotiate and clearly understand its role in the geoscientific and geomatics community at large. It will have to build partnerships, taking the lead, where necessary, but being a team player where appropriate. It will have to place itself firmly in the policy agenda and be proactive in providing and communicating relevant advice and expertise. ESS



## ATLANTIC GEOSCIENCE SOCIETY EDUCATION COMMITTEE

The Education Committee's two branches, New Brunswick and Nova Scotia, continue to play an active role in education. The Nova Scotia Branch focussed on four major projects: the geology field guide to selected sites in Atlantic Canada, the EdGEO Workshop program, EarthNet and "The Last Billion Years"

"Discovering Rocks, Minerals and Fossils in Atlantic Canada", was published as AGS Special Publication no.14. The book is a field guide to 49 geologically interesting sites in Newfoundland, New Brunswick, Nova Scotia and Prince Edward Island, with some informative locality maps and diagrams. Credit for this major accomplishment must go to the editor, Peter Wallace, who did an excellent job of editing and also personally visited most of the localities, and to the numerous contributors. Thanks to the loose-page format, Peter hopes to provide periodic updates as new write-ups are completed. Anyone interested in the geology of the Atlantic Provinces needs a copy of this book which is a steal at \$15.00.

The Nova Scotia EdGEO Committee, chaired by Jennifer Bates, presented the Workshop "Experience the Excitement of Earth Science", 17-18 August, in Truro. This, the fifth in the series, was fully booked several weeks before showtime. The program has evolved over the years so that the focus is almost exclusively devoted to hands-on presentations. The format, as previously, was Monday morning, rocks and minerals; Monday afternoon, field trip; Monday evening, talk on the geology of Nova Scotia by Howard Donohoe; and Tuesday morning, the Internet, fossils and summation. The field trip, led by Howard Donohoe and Bob Grantham, included visits to the LaFarge Canada's quarry and mill at Hilford, the flood plain of the Salmon River, downtown Truro to look at building stones, and Victoria Park where Horton is overlain by Triassic rocks. As always the weather was beautiful.

The Workshop concluded with an open forum, chaired by Susan Baldwin (a senior high school teacher who first met the gang at the 1995 EdGEO Workshop in 1995 and who, in a moment of weakness, agreed to be on the Committee), during which every participant had an opportunity to express her/his opinion of the program and presenters, and then filled in a questionnaire. The general enthusiasm was rewarding. Comments included: "Great. This was an incredible Workshop"; "Was educational and enjoyable"; "The resources are exceptional"; "Thank you, will be back again"; "It is definitely a superior workshop that should be accessed by more teachers"; and "Fantastic information and resources. We can't wait till next year in Parrsboro".

The success of the Truro Workshop reflects the dedication of the EdGEO Committee. Members are Jennifer Bates (Chair), Susan Baldwin, John Calder, Howard Donohoe, Bob Grantham, Iris Hardy, Henrietta Mann, Kathy Silverstein and Graham Williams. The 1998 Workshop owed much of its success to the Nova Scotia Community College, Truro and Colchester-East Hants Regional Library, where the sessions were held. Financial and in-kind support were provided by the National EdGEO Committee, Geological Survey of Canada, the Nova Scotia Department of Education and Culture, Nova Scotia Association of Science Teachers, Nova Scotia Department of Natural Resources, and the Nova Scotia Museum of Natural History. And LaFarge Canada Inc. generously provided a lunch for everyone on the Monday.

As the above indicates, the 1999 Workshop will be held in Parrsboro at the Fundy Geological Museum, with trips to Wasson Bluff and Joggins. A reflection on the success of the EdGEO program was that this one was fully booked by the end of February. That's a far cry from our early days back in 1994.

EarthNet (<http://agc.bio.ns.ca/EarthNet>), the virtual resource centre for Canadian earth science educators, leapt ahead in 1998 and early 1999 thanks primarily to generous financial support from the Geological Survey of Canada through its Geoscience Knowledge Network initiative. Although the searchable database of resources still forms the nucleus, there have been several innovative additions. These include: "Classroom Activities" that teachers can download for no cost; an illustrated "Glossary of Terms", a "Calendar of Events"; "Geology in the Classroom", a question and answer section; and "Links to Other Sites". Under development are "Exploring the Dynamic Earth", which will include animation and video and a "Teachers Online Forum".

EarthNet is managed by Jennifer Bates, with a supporting committee that includes Christy Vodden, John Shimeld and Graham Williams. Development is being directed by Jennifer, with input from Hanna Abou-Shahla, Erin Frith and Andy Henry. The project is a priority activity of the Canadian Geoscience Education Network. During its existence, the project has received financial support from the GSC, Canadian Geoscience Council, Canadian Geological Foundation, Geological Association of Canada, Canadian Society of Petroleum Geologists,



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Cc: 'thomas.clarke@sympatico.ca' <thomas.clarke@sympatico.ca>  
Date: Friday, May 21, 1999 10:00 AM  
Subject: Canadian Geoscience Education Network meeting in Sudbury next week

>Dear CGEN members:

>

>Pierrette Tremblay asked me to forward this draft agenda to you. The  
>meeting will take place Wednesday May 26, 8:00 - 10:30 in Room C-114, in  
the

>Classroom Building at Laurentian University. Hope to see you there.

>

>If you can't attend, please feel free to submit a brief summary of your  
>organization's educational activities over the past year. If you email it  
>to me, I will ensure that it gets tabled at the meeting.

>

>Christy Vodden  
>Communications Officer  
>Geological Survey of Canada  
>Natural Resources Canada  
>Rm 244, 601 Booth Street  
>Ottawa, Ontario  
>K1A 0E8

>

>Telephone: (613) 995-3084

>Fax: (613) 995-3082

>

>

>DRAFT AGENDA

>

- >> 1) Opening of the meeting and approval of the agenda
- >> 2) Approval of minutes of January meeting
- >> 3) Follow-up to the January meeting
- >> 4) EdGEO report
- >> 5) Earthnet report
- >> 6) Allocation of GAC grant
- >> 7) Nomination of EdGEO program to Michael Smith Award
- >> 8) A compilation of Public Awareness of Science by Pat Mackin -  
>> follow-up
- >> 9) Geoscied Conference
- >> 10) GeoCanada 2000 - public awareness program
- >> 11) Future projects
- >> 12) News from other organizations (written report)
- >> 13) Future projects
- >> 14) What do you want from CGEN?
- >> 15) Date of next meeting
- >> 16) Closing of meeting

>>

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and the Atlantic Geoscience Society. In 1998, it was the first recipient of an award, \$5,000, by the Jerome H. Remick III Endowment Trust Fund.

"The Last Billion Years" is truly approaching reality. Primarily through the efforts of Rob Fensome, the text has been extensively rewritten and is now ready to be reviewed by non-geologists. The illustrations will be superb and include some watercolour paintings specially commissioned for the book by the Geological Survey of Canada (Atlantic).

Funding for the book now stands at \$49,500, with Sable Offshore Energy Inc. contributing \$20,000. The estimated cost of producing the book is about \$110,000 and we intend to keep the purchase price below \$20.00. Although some of the cost of printing will be recouped in sales, we need about \$70,000 before we give the green light to publishing.

The commitment of the regional community to the book is impressive. Making contributions are geologists from the following organizations: Geological Survey of Canada, New Brunswick Department of Natural Resources and Energy, New Brunswick Museum, Nova Scotia Department of Natural Resources, Nova Scotia Museum of Natural History; and the following universities: Acadia, Dalhousie, Mount Allison, Saint Mary's, New Brunswick, and Prince Edward Island.

If we maintain our schedule, "The Last Billion Years" should be published in the year 2000. This accomplishment would truly represent a new millennium for the Education Committee.

The above program has been achieved through the dedication of members of the Nova Scotia Branch of the Education Committee. They are: Sandra Barr, Jennifer Bates, Martha Devanney, Howard Donohoe, Rob Fensome, Linda Ham, Michelle Jeffrey, Ann Jessome, Jack MacDonald, Henrietta Mann, Pat Ryall, Paul Robinson, John Waldron, Peter Wallace, Graham Williams and John Zevenhuizen.

The primary activity of the New Brunswick Branch of the Education Committee in the last twelve months has been in making geoscience presentations to schools and the general public. Geoscientists from the N.B. Department of Natural Resources, the mineral industry and the New Brunswick Museum continue to be available upon request. And the Bathurst office of the Geological Surveys Branch ran its annual field trip for Superior Middle School. The chairman of the New Brunswick Branch is Toon Pronk, who is hoping to have an announcement on an EdGEO Workshop to be organized in the Province sometime in the future.

The AGS Education Committee was invited to participate in a one-day Public Awareness and Promotion session held 9 September 1998 in Fredericton. The meeting was organized by Don Carroll of the New Brunswick Department of Natural Resources. The objective of the meeting was to assemble all those involved in outreach in New Brunswick, to share learned experiences, and to identify possible opportunities for collaborative efforts. AGS representatives Toon Pronk (NB) and Jennifer Bates (NS), with ten other associations and individual representatives, outlined recent and current activities and presented plans for future endeavours. A number of people expressed an interest in hosting an EdGEO workshop in New Brunswick. The participants said the meeting was very useful and wish to make it an annual event.

## **GSC Outreach Highlights for 1998-99**

### **Web Sites**

- Redesigned GSC Web site launched September 1998. Educational section revised and expanded.
- "Geoscape Vancouver" poster and "Si la Terre m'était contée...La Région de Québec sous la loupe des géologues" are now online.
- ResSources GSC initiative started up with 14 online projects demonstrating innovative ways to present geoscience information on the Internet. Educational information has very strong presence: EarthNet, CordLink, Yoho Park, etc.

### **Public Events**

#### Open Houses

- Sidney, B.C.: At Institute of Ocean Sciences, October 1-4, attended by 6,000 people to open house, and 2,100 students and teachers taking part in tours program.
- Ottawa: National Science and Technology Week "Science Funfest", October 18, attracted 1,300 people (mainly families with young children). School visits attended by 400 students and teachers.
- Halifax/Dartmouth: At Bedford Institute of Oceanography, October 22-26, a mix of school visits, client events and a public open house attracted 28,000 people.

#### As a participant in community events

- Ottawa: DESTINY 2000 (a science, engineering and technology careers fair for Grade 7 students), May 1, about 2,000 students.
- Calgary: 1998 Hullabaloo, May 3, family fair, 10,000 attended.
- Québec: Third "Salon du monde minéral", part of "Quinzaine des sciences", May 14-16.
- Bancroft Gemboree, Ontario, August 1 weekend, 10,000 people.
- Nepean Mineral and Gem Show, September 26-27, 2,500 people.
- Kamloops, B.C.: Canadian Student Leadership Conference, September 29, was attended by 500 students and 100 teachers from across Canada. The next conference will be held in Welland, Ontario.
- Saanichton, B.C.: Edu-Tech' 98, November 20-21, (event aimed at presenting the role and contributions of knowledge-based industries to the community) attracted about 1,600 people.

## **GSC Educational Products**

- "Geomap Vancouver": new GSC poster map; received strong media interest.
- "Natural Hazards of North America" map, published by *National Geographic*, was purchased as educational handout. GSC scientists advised on content. GSC helped produce French version.
- CordLink, a new interactive digital "library" of information pulls together all existing geoscience information for southwestern B.C. Designed for educators, the CD-ROM contains an easy-to-use, searchable database.
- "Teaching Tools for Earth Sciences", gives key NRCan web sites for earth sciences.

## **Connections with Teachers**

GSC took part in many educator conferences, some examples include:

- the Science Teachers Association of Ontario in Toronto, November 4-7, with speakers, a booth and a full-page ad in the program
- the B.C. Geography Teachers' Conference in Vancouver, October 24, with a booth.
- Bob Turner and John Clague presented "Geoscape Vancouver" at many teachers workshops, and developed/led local field trips for teachers.
- Godfrey Nowlan presented a workshop at the Alberta Teachers Association Science Council Meeting in Red Deer.

## **Museum Connections**

- McMichael Art Gallery has opened a new exhibit that blends the art and geology of Inuit stone sculpture, May 14, 1999. Geology component is getting very positive public feedback.
- Ontario Science Centre is refurbishing parts of the Earthly Riddles display, a travelling exhibit on geology developed by the GSC in 1992 and decommissioned to the OSC in 1996. GSC is also strong supporter/funder of Tuzo Wilson memorial sculpture.
- The Maritime Museum of the Atlantic has an active program of public lectures and tours, and GSC staff are frequent speakers. Recent lectures included "Seabedscape: new images of the ocean floor" by Gordon Fader and "Submarine landslides", by David Piper.

## **Media**

Media interviews of GSC scientists during the year totalled about 300 across the country: key areas of interest are earthquakes, gas hydrates, climate change, meteorites and marine geoscience. Some highlights:

- Sir William Logan, founder of the GSC, named the most influential scientist in

Canadian history by *Macleans* magazine, in their Canada Day edition.

- Richard Herd interviewed by CBC-Radio's "As It Happens", June 10, on meteorites.
- The EarthTones series, produced by Discovery Channel and five federal departments, featured GSC's climate change work through vignettes about the work of glaciologists Roy Koerner and David Fisher, and about John Shaw's work linked to storm surges on the East Coast. Air date was October.
- Maurice Lamontagne was interviewed by the "Les années lumières", January 24. This popular Quebec show runs a regular feature on technology that has made a difference, and the topic for that evening was the seismograph.
- "Nature of Things", one-hour segment on earthquakes, aired October 22, featured work of GSC seismologists.
- Discovery Channel's [@discovery.ca](http://@discovery.ca) ran a ten-minute feature on gas hydrates research, led by Scott Dallimore, March 11 and May 18.

**Politicians and Public Lectures:**

- Bacon and Eggheads: GSC scientist, Harvey Thorleifson, gave talk on diamonds in Canada, June 4, at second of these breakfasts designed to increase parliamentarians' knowledge of the impact of science in Canada. As one of the 1998-99 CIM Distinguished Lecturers, he presented this talk at a number of professional events, and gave 14 public lectures throughout the year.
- Marc St-Onge as the GAC's 1999 Howard Street Robinson guest lecturer, during a four-week national tour, gave lectures at 21 Canadian universities and institutions.

Christy Vodden  
May 18, 1999  
(613) 995-3084



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## CANADIAN GEOSCIENCE EDUCATION NETWORK

### SUMMARY REPORT - GEOSCIENCE-RELATED PROGRAMS & SERVICES AT THE ROYAL ONTARIO MUSEUM, June 1998 - May 1999

The past year has been devoted almost entirely to completing final design and production of the ROM's new flagship exhibit, *DYNAMIC EARTH: INCO LIMITED GALLERY OF EARTH SCIENCES*. With the public opening just a week away (Sunday, May 30th, 1999), curatorial and technical staff of the two ROM geoscience departments (Earth Sciences and Palaeobiology), along with exhibit personnel, preparators, outside contractors, and media relations staff, are just capping off an incredible effort to bring this amazing gallery on line. The public opening (preceeded by media, staff and member previews) next Sunday also coincides with an abbreviated celebration of Ontario Mining Week at the ROM. Further details can be found in the attached media release.

Although the development of *DYNAMIC EARTH* has been the focus of the ROM's geoscience education efforts, both Palaeobiology and the Earth Sciences department have managed to continue to participate in a wide range of educational programs and activities. The ever-popular "Rock, Mineral, Gem, Fossil, Stone Artifact, and Meteorite ID Clinics" (or, "Stones and Bones" for short) brought in hundreds of visitors bearing a wide variety of specimens over the course of the year. These free clinics are offered on one afternoon every second month.

Planning for two new themed palaeontology exhibits (Burgess Shale and Ontario Fossils) was halted in mid 1998 when key design and programming staff left during a voluntary separation window, and nearly 9 months have been lost in delays while we await replacement personnel. Over 200 specimens have been selected, label and text copy has been prepared, and a 3-D design is at the final review stage. The design incorporates several innovative exhibit concepts and we are very anxious to see the project back on the rails.

Programming offered in conjunction with other ROM departments (Education, Programs, Outreach, etc.) and in institution-wide events has included family fossil collecting outings, Saturday Morning Club sessions, ROM Summer Club presentations, March Break activities, orientation lectures for Education volunteers, lab and collection tours, Speakers' Bureau lectures and presentations at schools, libraries, and provincial parks. Two new day-long field trip programs are being developed for delivery in early summer and late autumn of 1999.

The ROM's annual free public Research Colloquium (November 1998) featured 11 short presentations (including posters) by staff of the Earth Sciences and Palaeobiology departments on a range of geoscience topics. For the second year in a row, Palaeobiology participated in an extremely popular ROM "adult" Valentine's Day program entitled *Love and Lust*. The palaeo show and tell components featured examples of sexual dimorphism in fossil eurypterid genitalia and ammonite shells, and baculae (penis bones) from a variety of fossil and modern vertebrate animals.

Palaeobiology is also involved in the development of a variety of exciting new products for testing in the educational "toy" market. Details will become available as the prototypes move into production.

ROM geoscience education interests extend beyond the museum and current partnerships include participation (by the Earth Sciences, Palaeobiology, and Education departments) in the GEOSCAPE TORONTO project, and consultation with smaller community museums in southern Ontario in the development of programs and exhibits.

My next CGEN summary of ROM activities will be the first in the PDE (Post *DYNAMIC EARTH*) Era, and I look forward to reporting on visitor reaction to our major new public gallery dedicated to the Earth sciences.

21.05.99

Dave Rudkin  
Department of Palaeobiology  
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**News Release**

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**Feel the Earth Move at the Royal Ontario Museum's new  
Dynamic Earth: Inco Limited Gallery of Earth Sciences**  
*Starting Sunday, May 30, 1999, experience the forces that shape our living,  
breathing planet.*

(Toronto, Ontario, March 24, 1999) The spectacular new **Dynamic Earth: Inco Limited Gallery of Earth Sciences** opens with force at the Royal Ontario Museum (ROM) on Sunday, May 30, 1999. This newly-created \$4.25 million, 14,000 square foot permanent gallery – the Museum's largest to date – will comprise innovative, interactive features showcasing not only the Earth's processes and amazing products, but the story of the planet's formation and evolution.

"As the ROM's largest and most elaborate gallery to date, **Dynamic Earth: Inco Limited Gallery of Earth Sciences** will set a new standard for immersive environments in a gallery experience," said Lindsay Sharp, President and CEO of the ROM. "Our talented team of Earth scientists and designers have combined lighting, sound and visual design to envelop us in the magnificent wonders of our planet, to give us a better understanding of the forces that continue to shape it."

**Dynamic Earth: Inco Limited Gallery of Earth Sciences** highlights the interactions between Earth's major processes. This holistic approach to Earth Sciences demonstrates how the Earth is an integrated system shaped and maintained by the geological forces of heat and pressure, plate tectonics, erosion and sedimentation, and life itself.

"The new ROM gallery captures the magnificence and the mysteries of our Earth and its mineral riches that we so depend upon in our daily life. Teaming up with the ROM on such a breakthrough gallery as **Dynamic Earth** was a natural for Inco," said Mike Sopko, Chairman and Chief Executive Officer of Inco Limited. A Canadian corporation with operations in 14 countries, Inco Limited is one of the world's premier mining and metals companies. It is the leading producer of nickel and an important producer of copper, precious metals and cobalt.

**Dynamic Earth: Inco Limited Gallery of Earth Sciences** includes three theatres (the Volcano, Earth and Minerals Theatres), numerous touchable interactive displays, activities and dramatic environments, as well as interesting washroom exhibits to engage the entire family. It is presented in four thematic areas:

**Dynamic Earth**

After entering the Gallery through the **Crystal Cave**, made with more than two tons of quartz crystals, visitors will look up to see a transparent, multi-layered globe with a glowing inner core. This orientation space leads to the 40-seat Earth Theatre, screening 'Earth in Motion', a film introducing the Earth as a system of interacting systems, presented 360 degrees by a state-of-the-art rotating projector onto the theatre's circular walls and floor.

**Restless Earth**

By following the glowing lava and rumbling sounds, visitors will enter the **Volcano Theatre** to view "Restless Earth" a short film projected onto the floor, animating the forces that shape the Earth's surface. An innovative earthquake table exhibit will rattle fillings by demonstrating the effect of seismic waves, while an interactive map describes patterns of volcanoes, earthquakes, plate boundaries, and mountain ranges on the planet's surface. More touchable specimens and interactive devices illustrate the constant reshaping of the Earth's surface by strong geological forces.

**Earth: The Alien Planet**

Awestruck at the Volcano Theatre where a film explains the forces that shape the Earth's surface.



Here, visitors will experience the evolutionary stages of the planet in six experiential rooms with touchable fossils, meteorites and rocks. For example, after observing the birth of the planet, (when planetismsals collided in the darkness of space) visitors can move to the second room, where they will witness the Earth's primordial stage, when meteorites, lightning bolts and thunder relentlessly battered its surface. Standing in the eerie pink glow of the third room, visitors see how a seascape of microbial mounds transformed the world. Jumping millions of years forward, visitors see life underwater and then as it moved onto land. Finally, visitors experience the Earth as it would have looked without life - similar to the planet Venus.

Using the walls as their stage, the ROM's newest characters, **Trog and Algie** (specially created for the ROM by well-known children's book author and illustrator, Blair Dawson) will lead visitors through a dialogue between the forces of organic life and inorganic rock to show the effect of these sometimes invisible forces on the Earth's evolution.

### **Treasures of the Earth**

In the Minerals Theatre, an audio-visual presentation, "Minerals in the Making: the Inside Story" will illustrate the macro- and microscopic views of the growth of mineral crystals. Four magnificent crystal-like display cases present a rainbow of mineral specimens. Nearby, families can explore interactive activity bays to learn about colours, shapes, and classifications of minerals and gems. Commonly-asked questions will be answered through stunning displays and games challenging the visitor to match shape types to minerals, to discover inclusions in minerals with a magnifier, and to detect fake gems. For a truly breath-taking experience, enter the reopened S.R. Perren Gem and Gold Room, where the ROM's collection of more than 1,000 beautiful gemstones and specimens are housed. Enter the dark, dramatic Minerals That Glow Room, to see how ordinary-looking rocks become glamorous under ultra-violet light.

### **Minerals in Everyday Life**

Line-ups are anticipated to the ROM's first washrooms that double as an exhibition, featuring giant cartoon-like medicine cabinets and cut-away walls to demonstrate how minerals are used in so many everyday products, such as talcum powder and toothpaste, and in the construction of the walls.

"The Earth constantly changes and renews its surface through forces as subtle as the fall of a raindrop and as colossal as the rise of mountains," said Don Davis, Curator, Earth Sciences, ROM. "Life and everything we use are part of Earth; the Gallery's central purpose is to open peoples' eyes to this fact."

The Royal Ontario Museum is grateful to Inco Limited, whose generous contribution has made the development of this gallery possible.

The ROM wishes to acknowledge the generous support of the Province of Ontario through the Ministry of Citizenship Culture and Recreation.

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Please send your comments to [info@rom.on.ca](mailto:info@rom.on.ca)



## **Outreach Activities - Earth Sciences, University of Waterloo**

### March 1998

Article on Geology and Stereophotography in "Rocks and Minerals" magazine (Peter Russell)

Display at the WaterCan Water Festival in Ottawa - travelling displays shown and joint program with Chris Rawlings. A mix of rocks and water songs for children visiting the festival. Over 500 children participated in this day of activities at the Ottawa-Carleton Centre.

### April 1998

Earth Sciences staff and faculty assisted with judging at the Waterloo-Wellington Science and Engineering Fair. The department also donates money to fund awards for earth sciences projects.

Dinosaur display at the Paris, Ontario Gem Show

### May 1998

Travelling groundwater displays shown at the Salon Scientifique prior to GAC/MAC 98 and on display at the GAC/MAC conference in Quebec City.

Travelling groundwater displays used at the annual Groundwater Festival at Doon Heritage Crossroads historic village, Kitchener, Milton and Durham Region, Ontario. (May/June)

Probis Club at Wellington County Museum. Lecture on dinosaurs and tour of the ROM Dinosaur Mobile. (Peter Russell)

Arrival of a five tonne piece of sodalite syenite for the UW Geological Garden. This was donated to the University by Andy Christie of the Princess Sodalite Mine, Bancroft.

### July 1998

Dinosaur display at the Sudbury Gem Show.

### October 1998

Science Open House

### November 1998

Science Teachers Association of Ontario - presentation on earth sciences teaching materials by Peter Russell at a special session on earth sciences and the new Ontario curriculum.

Kitchener Probis Club - lecture "Fossils, Folklore and Fact." (Peter Russell)

Installation of a specimen of serpentinite from Timmins, Ontario in the Geological Garden.

Loan of dinosaur materials for a display titled "Ancient Roars of Dinosaurs" at the Hamilton Children's Museum.

105 group tours of the museum. Topics for group visits included dinosaurs, rocks and minerals

and volcanoes.

During the year: Two issues of "Wat on Earth" newsletter were published and distributed. EdGEO newsletter included in the Fall issue. Editors received awards during the year. Alan Morgan received the Ward Neil Medal for Public Awareness of Science from the Geological Association of Canada and Peter Russell was voted into the Bulletin Editor's Hall of Fame of the Gem and Mineral Societies on Sunday August 16th 1998 at the editor's breakfast held during the American Federation of Mineralogical Societies/ Michigan Federation of Mineralogical Societies Show in Houghton, Michigan. This nomination was for work on the Wat on Earth newsletter.

#### February 1999

EdGEO Workshop for the Bruce Grey Catholic District School Board in Hanover, Ontario. Instructors: Mario Coniglio, Paul Karrow and Peter Russell.

Professional Activity Day on earth sciences for teachers in the Grand-Erie Public School Board.

(February through June) Co-op highschool assistant Jeremy Kipfer assists Earth Sciences Museum with groundwater information and outreach.

Science Engineering Technology Program (STEP Conference) at Appleby College in Oakville  
- Professional development activity on earth sciences teaching materials.

#### March 1999

Public lecture at Kitchener Public Library on Volcanoes - Peter Russell

#### April 1999

Earth Sciences staff and faculty assisted with judging at the Waterloo-Wellington Science and Engineering Fair. The department also donates money to support awards for earth sciences projects.

Earth Day Hamilton - Travelling groundwater display.

#### May 1999

Ontario Society for Environmental Education - annual conference at Paradise Lake near Waterloo. Presentation on earth sciences teaching materials.

"What on Earth are we Doing?" Environmental conference for grade 4 children - presentation "Groundwater, the Hidden Resource."

Lecture to Kiwanis - "Fossils, Folklore and Fact."

Groundwater displays used at groundwater festivals in Waterloo Region, Milton, Toronto and Durham. (May/June)

#### June 1999

EdGEO Field Trip to the Collingwood - Owen Sound area for the Bruce Grey Catholic District School Board in Hanover, Ontario. Instructors: Mario Coniglio, Paul Karrow and Peter Russell.

Peter Russell receives the designation of "Honorary Member of the University," at the University of Waterloo Convocation. This honour is given for Peter's work on public awareness of science, especially for his work with young children.

Summer: Rocks from British Columbia donated in memory of Harry Warren, biogeochemist who received an honorary degree from UW. Rocks donated in his memory include Pink Coral Granite, Jade and Rhodonite.

During the year the book "Wally and Deanna's Groundwater Adventure" originally published in 1993 was published in Portuguese for Brazil by Waterloo Hydrogeologic and ABBAS Groundwater Association in Brazil.

Article in "Rocks and Minerals" magazine for September - October 1999 on Mineral Pigments used in Medieval Manuscripts. (Peter Russell)

*Submitted by: Peter Russell, Department of Earth Sciences, University of Waterloo, Ontario*