

Canadian Geoscience Education Network
Minutes for Annual Meeting
May 21, 1998
Québec

Present: Jennifer Bates, Jon Dudley, Chris Gilboy, Fran Haidl, Kathleen Kemp, Henrietta Mann, Ward Neale, Godfrey Nowlan, Toon Pronk, Peter Russell, Pierrette Tremblay (Chair), Vic Tyrer, Christy Vodden

1. Introductions Those present introduced themselves and shared a highlight/observation from their outreach experiences.

2. Approval of Agenda Approved with additions of National Science and Technology Week, GSA 1998, Networking Opportunities, Nominating Committee for CGEN Chairman, and Travelling Exhibit.

3./4. Review of January 1998 Minutes/Business Arising Minutes from January meeting approved (moved by Peter Russell; seconded by Ward Neale). Decisions/action items arising from review of minutes (Appendix A):

- Publication "The PAST is the Key to the Future"; There is a good supply of English copies available from GAC headquarters (1,400 copies). Ward Neale will distribute his 100 copies to the Calgary Science Network. French translation still to complete. (*Action: Pierrette Tremblay*)
- Website for CGEN: Address for old website still being promoted in various publicity materials. Correct address is <http://science.uwaterloo.ca/earth/cgc/cgen1996.html>. (*Action: all to review any information they produce to ensure correct address is used; Jennifer Bates to follow up with Alan Morgan on updates required on CGEN site*)
- Supplemental CGEN meeting: Strong support for continuing this practice. Tie-ins with other major geoscience meetings will be sought for next one -- GSA in October is a possibility. (*Action: Pierrette Tremblay*)
- EdGEO: Standard evaluation for workshops to be developed. Logo design by Peter Russell was used on first issue of EdGEO newsletter, but still to be confirmed. (*Action: Fran Haidl*)
- Charitable status for CGEN: Non-profit status to be researched. (*Action: Paul Robinson*)

5. Chairman's Report See "CGEN Annual Report for 1997", Appendix B. Pierrette Tremblay also reported that because of a successful bid put forward by Alan Morgan the international education conference, Geoscied, will be held in Canada in 2002 or 2003. He will be putting together plans for this event; ideas are welcomed. Bids will be solicited to host this event.

6. Financial Report There were no expenses in 1997, as all costs were covered by Pierrette Tremblay's employer, INRS. At year-end there was \$2,800 in bank. These funds have since been used in part to develop the draft report "Public Awareness of the Earth Sciences in Canada" (see agenda item 8).

7. EdGEO Report See "1997 EdGEO Workshops", Appendix C. Key points made by Fran Haidl are that funding from CSPG (\$13,375), CGC (\$10,000) and GAC (\$7,500) remains strong. Applications for this year are being reviewed and include a GSA 1998 field trip and workshops for Regina, Nova Scotia, Edmonton, and the Alberta Teachers' Institute. The possibility of a New Brunswick/Nova Scotia EdGEO workshop is being explored. (*Action: Jennifer Bates/Toon Pronk*)

New **publicity opportunities** for EdGEO were discussed, including:

- articles about the program which are being prepared for science teachers' newsletters and curriculum packages such as Mining Matters. (*Action: Fran Haidl/Chris Gilboy*)
- the strong presence of earth sciences at Science Teachers' Association of Ontario (STAO) meeting, Toronto, November; speakers can be asked to mention EdGEO and publicity materials can be put out at GSC booth. (*Action: Christy Vodden/Vic Tyrer*)
- connections with faculties of education across country could be extremely useful (EdGEO workshops could target student teachers).
- EdGEO funds could be used to purchase resource materials in support of earth science presentations at other educational venues such as Innovators in the Schools and the Queen's University Summer Institute for Geography Teachers.

The first issue of the **EdGEO newsletter** (Appendix D), prepared by Gordon Domm, was strongly commended by CGEN. This will be an annual publication, and plans were confirmed at the meeting to insert it in "WAT on Earth". Fran Haidl will use a colour version of the newsletter for fundraising.

CGEN members are encouraged to submit articles to the newsletter by November 1. (*Action: all; Fran Haidl will remind CGEN members of submission deadline by end of September*)

CGEN members were also asked to distribute black and white copies (each to make their own) widely in order to promote the program, and to keep Fran apprised of where and how many copies they distributed. (*Action: all*)

The **EdGEO nomination to the 1997 Michael Smith Award for Public Awareness of Science** was discussed. EdGEO's nomination made it to the final review board and was considered a strong candidate. The award organizers indicated that EdGEO should be renominated for the 1998 awards. CGEN felt this would be appropriate as a national award of this stature would add prestige to the program and give EdGEO excellent publicity in educational circles (*Action: Christy Vodden, Fran Haidl and Ward Neale to update/finetune the 1997 documents and resubmit*)

8. GSA 1998 GSA is meeting in Canada for the first time in a decade, and the conference will include a strong educational component. The **locally organized program** will include a day-long field trip, hands-on workshops and speakers. This is being targetted at local teachers, high school and university students, at a registration fee of \$40 with a limit of 80 participants. Kathleen Kemp is the contact. *(Action: Kathleen Kemp to give detailed schedule of program, when available, to Pierrette Tremblay for distribution to CGEN members)*

There will also be a **geoeducational symposium** "Breaking Down Barriers: Communicating Relevant Geoscience Issues to the Public" (Appendix E), sponsored by GSA's Science Awareness through Geoscience Education and the Institute for Environmental Education. CGEN members already invited to present a paper or a poster include: Jennifer Bates on Earthnet, Fran Haidl on EdGEO, and Ward Neale on the Calgary Science Hotline. A poster on CGEN will be submitted *(Action: Pierrette Tremblay/Jennifer Bates)*; other CGEN members are encouraged to submit ideas *(Action: all)*.

// ? GSA

9. Plan of Action for Public Awareness of Science in Canada

Pierrette Tremblay received many thoughtful comments on the **draft plan of action**. There was strong support for EdGEO and Earthnet. There was, however, a consensus that there were too many recommendations in the document, that the concept of mini-centres of excellence needed careful thought, and concerns about re-inventing the wheel. Connections between the geoscience community and museums/science centres should be sought and strengthened. Recognition of people/organizations already doing public awareness activities was also strongly supported. *(Action: For next meeting, Pierrette to draft appropriate letter to be sent to senior managers of people and organizations to be identified by CGEN members)*

A first step towards building stronger public awareness of earth science in Canada is knowing what is already going on. Pierrette tabled a **draft listing of organizations and people** who are active across the country (Appendix F). All agreed that the draft document, prepared by Pat Mackin, was an excellent start and that it should be developed into a comprehensive listing.

CGEN members are to review the document and provide Pierrette with comments by June 30 on the overall concept, purpose and format of the document. Some key questions are: what type of information should be recorded, what should not, should there be a committee version and an abbreviated public document? Once agreement on these questions is reached, CGEN members will be asked to provide any missing information/listings. *(Action: all by June 30, as a priority)* ✓

The question of **fundraising for CGEN** to support increased public awareness of geoscience flows from the draft plan of action. The CGC Executive is currently addressing the question of fundraising and will advise CGEN on their strategy. All agreed that fundraising efforts focussed on Earthnet and EdGEO could bring solid results as both are established, productive programs of national significance. Other ideas for follow up include:

- **Incorporation of CGEN**, which could lead to possible funding from Industry Canada. *(Action: Pierrette Tremblay to research)*

- Concept that **other organizations become members of CGEN**, with the idea of raising

funds through these memberships. (*Action: Vic Tyrer to develop and present for discussion at next meeting*)

Other initiatives flowing from the draft action plan or that complement it are:

7 ■ **The scientist and the media:** Brian Bornhold has been charged with developing guidelines for scientists dealing with the media. (*Action: CGEN members with media expertise are asked to contact Brian*)

■ **Curriculum resource development:** There are excellent mutually beneficial connections being developed with the PDAC (Pat Dillon) and BC Mining Association (Maureen Lipkewich), both of whom are coordinating major curriculum packages.

On a broader scale, tied to the increased profile of earth sciences resulting from the Pan-Canadian Science Curriculum exercise, CGEN will recommend to the CGC Executive that a high level effort is required to urge faculties of education across Canada to incorporate the earth sciences into their core programs. CGC should offer to facilitate connections between the education faculties and the earth science departments at their university. It should also promote the benefits of EdGEO workshops and Earthnet as resources for student teachers. (*Action: Pierrette Tremblay*)

WAT on Earth, the earth science newsletter published by the University of Waterloo, is an excellent way to get information out to teachers. It has just expanded its distribution to over 1,000 subscribers. CGEN members are encouraged to submit material to the editor, Peter Russell. (*Action: all*)

10. Earthnet (Appendix G). There are over 900 resources now online, and Earthnet is well positioned to move towards a more national profile. Teacher input is essential at this stage. For the near term, the priorities are to develop a national resource team, with teachers as members, and to develop the French version, Géonet. Publicity is crucial to encouraging teachers to use Earthnet and post their own materials. Longer term, the goal is to make the database truly national. Discussions are also underway with the AGI about twinning with their educational database. Assured funding of the Earthnet project is essential. At a minimum, it needs about \$13,000/year over the next five to ensure that it remains viable.

CGEN members agreed that Earthnet is a "single shop window" for teachers seeking earth science resources, and that it should be a priority for CGEN. The issue of fundraising will be resolved once the CGC fundraising strategy is developed.

11. Québec 1998 Teachers Program The field program for teachers received excellent feedback from its 15 participants. While registration was a smaller than for last year's program, it was expected as there had been a special effort made by CGEN and GAC to bring teachers from across Canada to the Ottawa'97 meeting in recognition of the GAC 50th anniversary. CGEN members agreed that fundraising for the teachers' field program was not possible annually for each province, but that the decision would be left to the various provincial reps.

12. Sudbury 1999 CGEN supports the teachers program at the 1999 meeting and CGEN

members are to send ideas for the session title, talks and posters to Fran Haidl or Chris Gilboy. EdGEO reps are to decide whether they will fund teachers from their provinces and, if they plan to do so, they are to let the organizer, Mia Boiridy (email: boiridy@sciencenorth.on.ca), know as soon as possible. (Action: all) — no .

On a related note for the Calgary 2000 meeting, CGEN members recommended that one of the plenary session speakers represent geoeducation and outreach. (Action: Pierrette Tremblay to send letter suggesting this to Jon Dudley, Chair, GAC Education Committee)

13. Reports of Activities of Member Societies and Institutions

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

- Saskatchewan Geological Society (Chris Gilboy): Attached as Appendix H. School Liaison Committee was very active. Key initiatives were: a geological garden in a Regina high school, funding of two Saskatchewan teachers to attend Ottawa'97, and helping run three EdGEO workshops in the province.

- Atlantic Geoscience Society (Jennifer Bates): Education Committee is going through resurgence: new people, good representation and lots of enthusiasm. Main projects are Earthnet, the Nova Scotia EdGEO workshop, a popular book on the geology of the Maritimes (due out Fall 1999) and a video on Halifax Harbour.

- Canadian Institute of Mining and Metallurgy (Dave Sinclair): CIM, in conjunction with Science North, has just released a CD ROM "Ground Work: Exploring for Minerals in Canada". Copies are available from Dave Sinclair (telephone 613-992-9810, email sinclair@gsc.nrcan.gc.ca). It is also available on the Internet at <http://www.sciencenorth.on.ca/groundwork/>

- GAC Education Committee (Jon Dudley): Key initiatives are three annual Canada youth science awards, continued endorsement and support for EdGEO, development of a new journalism award being with funding from Yves Fortier, revisions to the Ward Neale Award for Public Awareness to include a national public lecture tour for the winner, and a new education orientation in Geology and Geoscience Canada (each issue will contain articles).

- Geological Survey of Canada (Christy Vodden): Attached as Appendix I. Open house at Geomagnetic laboratory in Ottawa attracted very strong attendance of over 1,000. Open houses are scheduled this fall at the Bedford Institute of Oceanography in Dartmouth, N.S. and the Institute of Ocean Sciences at Sidney, B.C. (attendance estimated at 5,000-7,000 for each event). Geoscape Vancouver poster is getting great feedback and many other regions are putting together plans to produce one.

- University of Western Ontario, Department of Earth Sciences: Richard Seco's written report was tabled, see Appendix J.

14. Next Meeting To be determined. GSA 1998 is a possibility.

15. Varia

■ **Networking Opportunities:** Members involved in upcoming major events where CGEN, EdGEO and Earthnet could be publicized should advise Pierrette Tremblay. For the future, CGEN wants to develop comprehensive list of science/geography teachers' associations and newsletters across Canada. *(Action: CGEN members to forward any information and contact numbers to Christy Vodden: telephone 613-995-3084; email vodden@gsc.nrcan.gc.ca)*

■ **National Science and Technology Week (NSTW):** Industry Canada will no longer provide national leadership for this annual event. Their expectation is that local groups will still carry on their own celebrations. CGEN members felt that this would probably not work, as timing of event (late October) was not the best in terms of the school year and weather. Very few groups linked to CGEN indicated any interest in carrying on under the NSTW banner.

■ **Travelling Exhibit:** Henrietta Mann proposed that CGEN consider developing a national travelling exhibit. All agreed that it was an idea worth looking into. *(Action: A sub-committee including Henrietta, Vic Tyrer, Peter Russell will develop concept to present at next meeting. The Science Alberta Foundation will be contacted as they have a lot of experience in developing travelling exhibits)*

■ **Nominating Committee for CGEN Chair:** Ran out of time, hold for next meeting.

Christy Vodden
May 26, 1998

Other attachments:

- Directory of the Canadian Geoscience Education Network
- "Mining makes it happen", OWL magazine insert
- "Mining Matters: The Facts", Prospectors and Developers Association

CGEN ANNUAL REPORT FOR 1997

The Canadian Geoscience Education Network (CGEN) is the education committee of the Canadian Geoscience Council, the voice for geosciences in Canada. CGEN is concerned with all levels of geoscience education in Canada and encourages activities designed to increase public awareness of geoscience.

OUR MEMBERSHIP

The Network has been formed to stimulate the development of geoscience awareness activities in Canada, to coordinate the efforts of the Canadian geoscience community in matters related to geoscience education and public awareness of geoscience and to act as a forum for discussion of matters related to geoscience education. CGEN undertakes initiatives that can only be conducted at the national level and raises funds to support grassroots activities. At this point in time, CGEN is a collective of about 45 people - activists at the local level, representatives of Earth Sciences professional organizations. This past year, we have expanded our membership to include representatives of the PDAC "Mining Matters" program, the BC Mining Association, the Education Committee of the CIM and the B.C. Colleges-Universities Earth Sciences Articulation Committee. We hope to expand it even further in the future.

The officers of CGEN in 1997 were: Chairman: Pierrette Tremblay (Québec Geoscience Centre); Vice-Chairman: Paul Robinson (Dalhousie University); Godfrey Nowlan (GSC-Calgary); and executive members Louisa Home (Dalhousie University) and Fran Haidl (Saskatchewan Geological Survey). The annual meeting was conducted in Ottawa in May 1997.

PLAN OF ACTION FOR PUBLIC AWARENESS OF EARTH SCIENCES IN CANADA

CGEN was asked to develop a plan of action for Public Awareness of Earth Sciences in Canada for the Canadian Geoscience Council. What is needed for PAES in Canada? Where are we at? Where do we want to go from here and how do we go about it? These are some of the questions we are grappling with. A first draft was presented at the September CGC meeting and is being discussed among all CGEN members. CGEN sees its role as that of a catalyst and of a coordinating body. The first action we intend to carry out is to get an overall picture of who does what and where in the area of public awareness of science.

THE EDGEO NATIONAL PROGRAM

The EdGEO national program is the main program of CGEN. Workshops for primary and high school teachers are run by local scientists and teachers all over the country. EdGEO provides financial assistance, the opportunity to network with others undertaking similar programs and advice on the development and delivery of teacher workshops. Thanks to the Saskatchewan executive committee, nine successful EdGEO workshops were completed in 1997 : Edmonton and Drumheller, Alberta; Bridgewater, Nova Scotia; Rimouski and Québec City, Québec; Regina, Saskatoon and Eastend, Saskatchewan. Our thanks to the devoted volunteers who made these workshops possible. A total of 206 teachers participated in the workshops.

Fran Haidl and her team have laid the groundwork for a fundraising campaign in support of EdGEO activities.

A nomination for the EdGEO program was sent to the Michael Smith awards for science promotion. CGEN expresses its thanks to Ward Neale, Fran Haidl, and specially Christie Vodden, who put together this nomination. Our candidature made it to the final round and with the experience we

acquired and the feedback we received, hopefully will allow us a better chance to win that much coveted honorary award next year.

The EdGEO program was highlighted in a short article published in the CSPG's *newsletter The Reservoir*. Since then, all members of CGEN have received a short article that can be published in the newsletter of their association.

OTTAWA 97

The first ever field trip for teachers at a GAC-MAC annual meeting was sponsored by CGEN and was a resounding success. Our thanks to the following organizations who made it possible for 17 teachers from all across Canada to attend this event: — the Robinson Fund of the Geological Association of Canada; the Québec Geoscience Centre; the Association des géologues et géophysiciens du Québec; the Saskatchewan Geological Society; the Atlantic Geoscience Centre; the Mining Association of British-Columbia and the NWT Rock project.

THE PAN-CANADIAN SCIENCE PROJECT

In February 1995, the Council of Ministers of Education, Canada (CMEC) adopted the Pan-Canadian Protocol for Collaboration on School Curriculum. In identifying science as the first area for collaboration under this new protocol, the ministers indicated that they recognized the importance of all jurisdictions providing students with the necessary knowledge, skills, and attitudes for scientific literacy. All jurisdictions except Québec participated in the development of this common framework of science outcomes for K-12. A draft of the framework was available for consideration in late 1996 and the Network tried to ensure that geoscientists in most provinces provided input to the process. The final framework was published in October 1997 and can be accessed at:

<http://www.cmec.ca/>

The curriculum framework was developed for three areas of science: physical, life and earth. This equality of the three areas of science bodes well for earth science content in the new framework. Members of the Network will be involved in its implementation in the various provinces.

COMING UP

CGEN is sponsoring two special sessions at Québec 1998 :

- *New partners in Earth Science Education*
- *Toward Ecotourism : a Geoscience Perspective*

A pre-meeting field trip for teachers and scientists is also planned for Québec 1998. And we are already planning our participation at Sudbury 99.

CGEN put in a proposal to host the third International Conference on Geoscience Education, (thanks to Alan Morgan) in the year 2000. Because of world-wide rotation of the conference, the Australian proposal received more support than ours, but we will be hosting the fourth conference in 2002.

I have many hopes for 1998. Many exciting developments are in the works. It is my hope that by the end of 1998 we will have a clearer picture of the situation of Public Outreach in Canada and that CGEN emerges as a Leader.

Pierrette Tremblay

(CGEN ANNUAL REPORT FOR 1997)

1997 EdGEO WORKSHOPS

May 5, 1998

Location	Number of Participants	Budgeted Expenditures	Actual Expenditures	Actual Revenue	EdGEO Grant	EdGEO Refund
Drumheller, AB	11	\$5730.00	\$3371.00	\$4993.00	\$3000.00	\$1622.00
Edmonton, AB	17	\$7600.00	\$4944.15	\$5000.00	\$3000.00	\$55.85
Eastend, SK	13	\$2382.19	\$2417.07	\$2407.19	\$1452.39	\$0.00
Regina, SK	20	\$5330.00	\$5189.01	\$5251.55	\$2501.55	\$62.54
SK (SMA, SGS) ¹	29	\$1890.00	\$1859.91	\$1896.08	\$1596.08	\$36.17
Quebec City, QC ²	20	\$3060.00	\$2409.00	\$2030.00	\$1426.56	\$0.00
Quebec City, QC ³	22	\$3060.00	\$2409.00	\$2030.00	\$1426.55	\$0.00
Rimouski, QC	33	\$5500.00	\$4263.00	\$4235.00	\$3000.00	\$0.00
Bridgewater, NS ⁴	24	\$3230.00			\$0.00	
TOTAL	189			TOTALS	\$17403.13	\$1776.56

EdGEO OUTLAY PER TEACHER⁵: \$94.71

¹ This workshop is run in conjunction with the Saskatchewan Mining Association tour of mines for teachers from across Saskatchewan.

² High school teachers

³ Elementary teachers

⁴ This workshop, the fourth in a series of successful workshops organized by the Atlantic Geoscience Society, did not require an EdGEO grant; it was supported by funds and in-kind donations obtained by the local organizing committee.

⁵ Excluding Bridgewater workshop

SPECIAL PROJECT: EdGEO/CGEN and GAC/MAC Ottawa97 co-sponsored a field trip for 17 teachers from across Canada; EdGEO funding was \$876.21; additional funding was provided by the Robinson Fund and by provincial and local organizations.

NATIONAL EdGEO WORKSHOP PROGRAM

Financial Report (April 1, 1997 - March 31, 1998)

Bank Accounts

Royal Bank (Opening Balance)	\$11,548.57
Royal Bank (Closing Balance)	\$42,059.38

Income

	DR	CR
CSPG		\$13,375.00
GAC		\$7,500.00
CGC		\$10,000.00
Interest		\$47.66
Refund from Workshops	St Hyacinthe	\$430.23
	Wolfville	\$2,943.24
	Edmonton	\$55.85
	Ottawa	\$3,000.00
	Drumheller	\$1,622.00
Purchase of Dinosaur Kits		\$20.00
Total Income		\$38,993.98

Expenditures

Workshops Sponsored (1997)

Regina EdGEO	\$2,500.00
SMA/SGS	\$1,550.00
Edmonton	\$2,492.56

Total Workshops \$6,542.56

Bank Charges	\$0.60
Travel	\$966.33
Advertising (Colour Page)	\$40.13
Refreshments	\$32.46
Teacher Sponsorship (GAC/MAC)	\$876.21
Courier	\$24.88

Total Expenditures \$8,483.17

Accounts Receivable

SMA/SGS workshop	\$36.17
Regina workshop	\$262.54
Total Accounts Receivable	\$298.71

Vodden, Christy

From: Clague, John
Sent: Wednesday, May 13, 1998 11:54 AM
To: ESS.SST Distribution
Subject: GSA Annual Meeting, Toronto

Note: This message is directed mainly to GSC and Geomatics staff.

GSA GEOEDUCATIONAL SYMPOSIUM AND THEME SESSION

Bob Turner (GSC), Michelle Lamberson (UBC), and I are organizing a symposium and theme session, entitled *Breaking Down Barriers: Communicating Relevant Geoscience Issues to the Public*, to be held at the 1998 Geological Society of America (GSA) Annual Meeting in Toronto in October. The symposium and theme session are sponsored by GSA's Science Awareness through Geoscience Education (SAGE) and Institute for Environmental Education (IEE).

Our objective is to assemble a group of scientists, educators, and others to showcase and discuss successful strategies for making geoscience information more understandable to people with little or no background in earth sciences (educators, students, planners, government officials, environmental and engineering consultants, reporters, broadcasters, and the general public). Many different approaches have been used to reach these groups, including workshops, field trips, institutional open houses; the use of the internet, television, and radio; and production of posters, books, brochures, slide sets, videos, and school curriculum materials. We look forward to hearing from others what lessons they have learned in their own outreach efforts.

We welcome contributions of oral and poster papers to the theme session (T11) from our GSC colleagues involved in geoscience education and outreach. Interested persons may submit abstracts for this session directly to GSA (due date is July 13). GSA encourages electronic submission of abstracts at <http://www.geosociety.org>

Please feel free to contact Bob Turner or me by phone or e-mail for further information.

John Clague

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101 - 605 Robson St.
Vancouver, B.C., Canada
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Phone: (604) 666-6565
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Appendix G

EarthNet

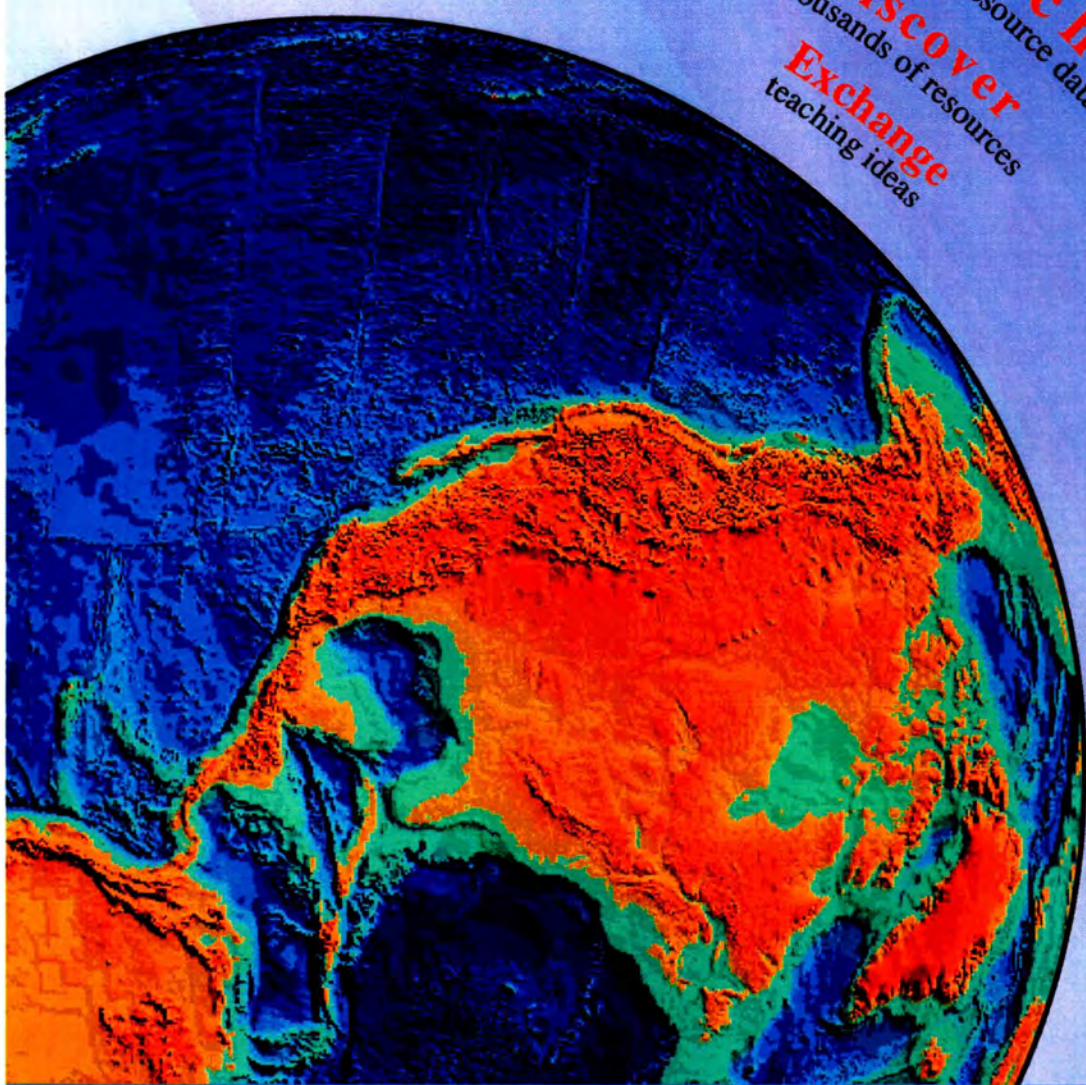
<http://agcwwww.bio.ns.ca/schools/esrc/esr-home.html>

L o o k
for teaching resources about rocks and minerals, fossils,
dinosaurs, volcanoes, earthquakes, glaciers...

S e a r c h
an earth science resource database

D i s c o v e r
thousands of resources

E x c h a n g e
teaching ideas



Contact

Jennifer Bates
Ph: (902) 426 4386
Fax: (902) 426 4848
Email: bates@agc.ns.ca

Canadian
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Network



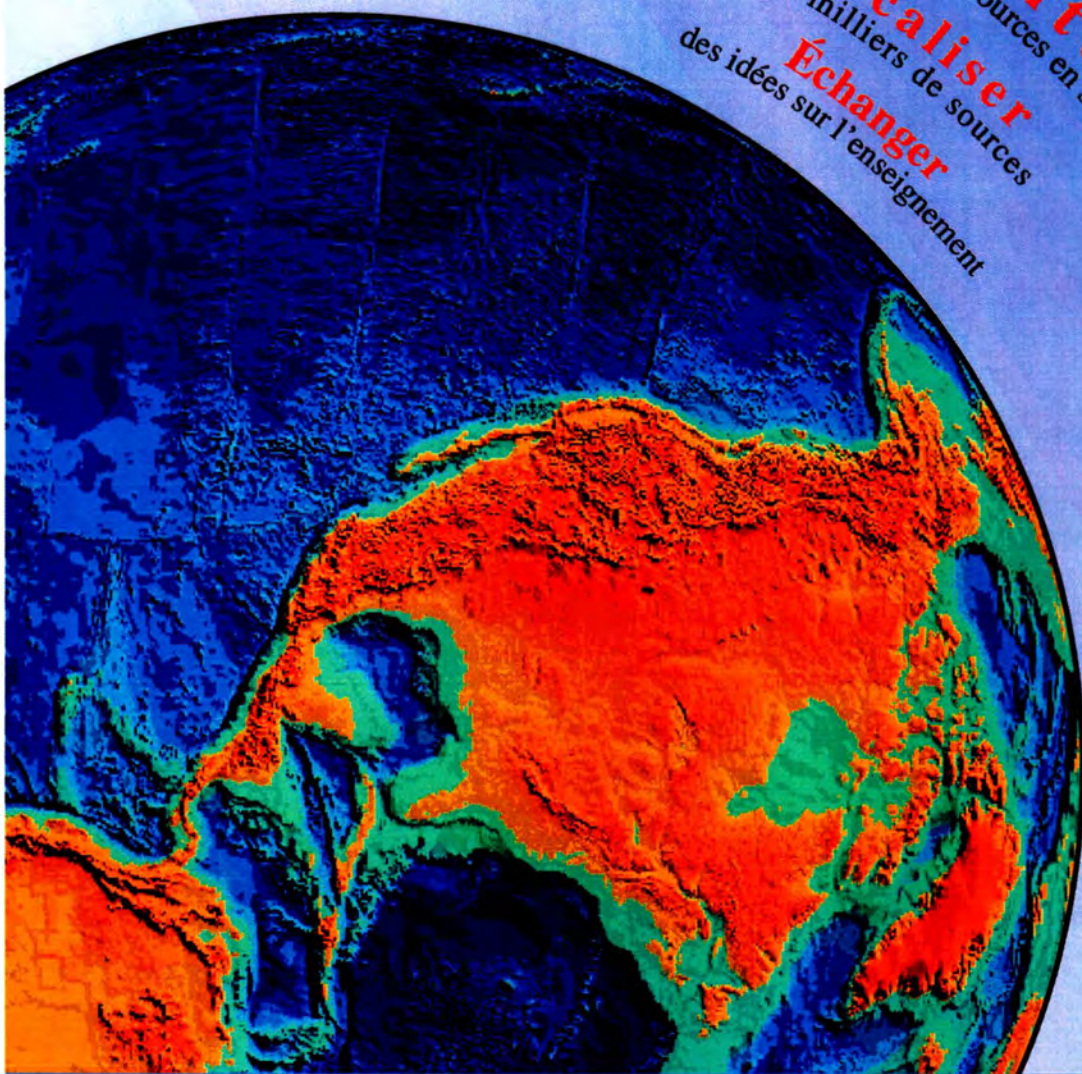
GAC/AGC



Géonet

<http://agcwww.bio.ns.ca/schools/esrc/esr-home.html>

Découvrir
des ressources pédagogiques sur les roches et les minéraux, les fossiles,
les dinosaures, les volcans, les tremblements de terre, les glaciers...
Consulter
une base de données sur les ressources en sciences de la Terre
Localiser
des milliers de sources
Échanger
des idées sur l'enseignement



AGC/GAC



Réseau
canadien pour
l'éducation
en géoscience



Fondation
canadienne
de géologie

Contact

Jennifer Bates
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Fax: (902) 426 4848
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(Documentation distributed with grant proposals)

PROJECT:

EarthNet, a virtual resource centre for K-12 teachers of earth science
(<http://agcwww.bio.ns.ca/schools/esrc/esr-home.html>)

BACKGROUND INFORMATION:

EarthNet, a project of the Atlantic Geoscience Society, evolved from "The Earth Sciences Resources Guide", a manual produced for the 1994 EdGEO Workshop in Nova Scotia. The Resources Guide provided information on earth science resources suitable for classroom use in grades K through 12, and first year university.

To facilitate access, the AGS Education Committee decided to place the information in a database accessible on the Internet. The first version was cumbersome and somewhat limited in the nature of possible retrievals. The present version is custom-made and lists about 900 resources, which are grouped according to topic, resource type, grade level, and region of Canada.

The Canadian Geoscience Education Network (CGEN) has agreed to adopt EarthNet as a priority project, while leaving responsibility for development to AGS. Because of CGEN sponsorship, the Canadian Geoscience Council awarded a grant of \$4,000 to EarthNet in October 1997. The Geological Association of Canada acknowledged its support of EarthNet with a \$3000 grant in March 1998.

The EarthNet Committee, assembled in 1996, consists of Jennifer Bates (project manager, GSC Atlantic), Kevin Coflin (Shell Canada Limited), Christy Vodden (GSC Ottawa), and Graham Williams (GSC Atlantic). The Committee intends to expand the membership in 1998 to include education and complementary information technology expertise.

OBJECTIVES:

To develop and update the EarthNet website and ensure its usefulness to and availability in all Canadian schools.

To provide teachers with the opportunity to share lesson plans and activities online and discuss earth science with other teachers.

To develop a list of volunteers across Canada to input new resources, so that a comprehensive coverage of all provinces and territories is ensured.

To establish a National Teachers Advisory Group to guide development of the EarthNet website.

IMPLEMENTATION:

EarthNet is a reality thanks primarily to the support of the Geological Survey of Canada. The Secretariat is located at GSC Atlantic, Bedford Institute of Oceanography, Dartmouth, Nova Scotia. EarthNet is accessible through the GSC Atlantic web site at:

<http://agcwww.bio.ns.ca/schools/esrc/esr-home.html>

The sophisticated, tailor-made software and search interface has been developed at GSC Atlantic, at minimal cost to EarthNet. The retrieval program has been well received by teachers and others who have accessed the database.

Day to day operation of EarthNet is through the Secretariat, housed at GSC Atlantic, Dartmouth, and managed by Jennifer Bates. Funding is required to contract services for resource review, data input, and programming. To date, funding has been obtained from the Geological Association of Canada, the Canadian Geoscience Council, the Canadian Society of Petroleum Geologists, and the Canadian Geological Foundation. A National Resources Group of Provincial and Territorial representatives is being established to collect teaching resources in their respective regions. A National Teachers Advisory Committee, comprised of teachers from across Canada, will provide input and advise on the development of EarthNet.

Obtaining and evaluating resources is a time-consuming task that needs to be continuously pursued. As of 15 May 1998, the database contained ~900 resources. The fields completed for each resource are: title, resource type, grade level, earth science topic, year released, cost, source, website URL, description and support material. Most resources are available free of charge or can be purchased or borrowed at a low cost. Hyperlinks to online resources are provided for immediate access.

Other aspects of the EarthNet website are at varying stages of development. The activity component has just begun with the posting of ~10 activities. Ideas proposed by teachers for the online forum are yet to be implemented. An online earth science resources help guide is being created to facilitate use of the database. Reciprocal links have been established with Canada's SchoolNet and numerous other sites.

Critical is the need to publicize EarthNet and make teachers aware of its potential. EarthNet will try to accomplish this by distributing flyers and posters, and by giving talks and demonstrations at teachers conferences and workshops across Canada. To date, promotional venues include the Nova Scotia EdGEO workshop (August 1998), the Nova Scotia Association of Science Teachers Conference (October 1998), the Geological Society of America Annual Meeting (Toronto, October 1998), and the Science Teachers

Association of Ontario Conference (November 1998). It will also be important to supply hands-on mini-workshops for teachers. Collaboration with the EdGEO workshop programs across Canada to bring EarthNet to the teacher and to include the resources and activities of these workshops in EarthNet would hopefully benefit both projects. Advertisements in teachers' newsletters, faxes to schools, and reciprocal links on websites are other promotional efforts.

Inclusion of French language resources in the EarthNet database is important. Translation of the website .html pages to French will begin soon, however, resources will be provided in the language of origin.

BENEFITS:

EarthNet will provide continually updated information on earth science resources for Canadian teachers of grades K-12. Thus, teachers can readily design a lesson or course, complete with exciting, readily available materials. However, EarthNet is intended to be much more than an online catalogue. The website will provide a communication link for all teachers who access EarthNet and use the resources. Feedback and reviews will be encouraged and special emphasis will be given to the exchange of lesson plans or activities prepared by teachers. This supplementary information will be attached to the specific resource and hence will be available in future retrievals.

EarthNet will encourage discussion of earth science on the Internet and create a bulletin board for educators and students as part of the Teachers' Online Forum. Also, information on recent events such as earthquakes, volcanic eruptions, or less traumatic occurrences such as the discovery and development of natural resources could be posted to the site.

PAST FUNDING:

In 1993, the Atlantic Geoscience Society awarded \$1,000 to its Education Committee as seed money for the development of an Earth Sciences Resource Guide. The Education Committee was granted \$3,000 by the Canadian Geological Foundation and \$4,000 by the Canadian Society of Petroleum Geologists in 1994 to develop an online database from the hard copy Resources Guide. The funding, plus continuing support by GSC Atlantic in providing summer students for several years, covered the cost of conversion to the Internet version of the guide, termed EarthNet. However, the database retrieval proved to be limited. Through the generosity of GSC Atlantic, a custom-made database was designed. Subsequent funding from GAC, CGC, and GSC (Atlantic and Ottawa) permitted EarthNet to hire contractors (part-time) to collect and review resources during 1997-98. As of May 1998, information on ~900 documents has been loaded and the posting of classroom activities has begun.

FUTURE FUNDING:

To maintain the Secretariat, EarthNet needs \$34,500 per annum (see attached budget). We hope to obtain continuing logistical support from GSC Atlantic. But we must obtain some funding from outside sources. Requests for funding are also being made to the other member societies of the Canadian Geoscience Council as well as the private sector.

Projected Budget for EarthNet, 1998

Database Enhancement

Part-time person to assess and input teaching resources to database (\$15 per hour, 18 hours per week, 50 weeks)	\$13,500
Programmer (80 hours, \$20 per hour)	1,600

Promotional Materials

Design and printing of flyers (2000)	3,500
Design and printing of poster (500)	3,000
Printing of guide (100)	200

Promotional Activities and Information Sessions

Mailing costs	600
Display and presentation at national science teachers conference	1,300
Display and presentation at provincial science conferences (Nova Scotia, New Brunswick, Alberta, Ontario)	1,400
Display and demonstration at provincial elementary school conference (Nova Scotia, New Brunswick, Alberta)	300
Presentations to regional school boards and science consultants (Nova Scotia initially)	300
Regional meetings of representatives of the EarthNet's National Teachers Advisory Group: Western Canada	3,000
Central Canada	2,000
Eastern Canada	1,000

Teacher Workshops (pilot project)

Present ½ day on-hands workshops to 12 selected schools within Nova Scotia	
Contractor's cost to hold these workshop	
6 local locations (\$100 per session includes travel expenses)	600
6 regional locations (\$200 per session includes travel expenses)	1,200

Advertising

Ad in provincial science and elementary newsletters across Canada	1,000
Mass fax information sheets to schools	no cost
Reciprocal links on education sites	no cost

TOTAL \$34,500

Note: The above budget does not include any costs for website and database maintenance, use of a personal computer, software, office space, and server disk space. We hope to continue obtaining these services as in-kind support from Geological Survey of Canada (Atlantic).

May 15, 1998

SASKATCHEWAN GEOLOGICAL SOCIETY;
1997 ANNUAL REPORT TO CGEN, QUEBEC CITY,
21 MAY, 1998

The Saskatchewan Geological Society (S.G.S.), largely through its School Liaison Committee, continued to expand its public awareness and geoscience education activities. In 1997, it considerably increased both its expenditures and its revenue, the latter largely sourced from outside the S.G.S.

The prime initiative we got off the ground was the development of a geological garden in the grounds of Campbell Collegiate, a large Regina high school. The Collegiate was an enthusiastic partner in the project, several staff members seeing it to be a natural expansion of their plans to relandscape the school's front lawn. Progress on what we view as a pilot project for a much wider community-oriented Geological Gardens Project was slow but steady through the year. Staff and student involvement in design, in selection of suitable material, in construction and in helping to fundraise was seen as being essential if the gardens were to be fully appreciated by this and future generations of Campbell attendees. Such involvement was forthcoming. Rocks were examined, chosen and marked, a scale model of the proposed relandscaping was prepared in art classes; and a landscaping grant application was submitted to, and awarded by, the Regina Public School Board. The S.G.S. School Liaison Committee approached the President of Rider Resources Inc. in Calgary, a graduate of Campbell Collegiate, to take on responsibility for raising funds for the geological gardens project. He initially accepted the invitation, but several months later (in January, 1998) resigned without having been able to start campaigning. Other Regina institutions which have expressed interest in establishing geological gardens on their grounds are the Saskatchewan Science Centre, Elsie Mironuck Elementary School, Riffel High School and the University of Regina Faculty of Education (as part of the Children's Garden). The Saskatchewan Mining Association (S.M.A.) participated in discussions relating to the Geological Gardens Project, and undertook to try to supply rocks from some of its members and/or help with transporting rocks upon request.

Another 1997 innovation was raising funds to cover travel costs to enable two Saskatchewan teachers, graduates of previous EdGEO workshops in the province, to attend the GAC/MAC Conference in Ottawa. The 85 teachers identified as being eligible for a travel grant were contacted and asked to submit applications. Of the five responses received, two stood out clearly from the rest in that the applicants were so willing to share their experience with colleagues in a variety of ways as well as to provide feedback to the School Liaison Committee by serving on it for at least one year. We raised \$1000 of which \$200 came from each the S.G.S., the S.M.A. and the Geological Society of C.I.M. (Saskatoon Section), and \$400 from the Association of Professional Engineers and Geoscientists of Saskatchewan (A.P.E.G.S.). The two teachers who went to Ottawa, Allan Melenchuk of St. Augustine Community School and John Lukomski of Robert Usher Collegiate seemed to get much out of what they saw, what they learned, and whom they met.

The S.G.S. was instrumental in helping to run three EdGEO workshops in the province. The earliest, 11 to 15 August, was held in conjunction with the S.M.A. Mines Tour for Teachers. It focused on rock and mineral identification. Lynn Kelley kindly agreed to be the course instructor. The second workshop took place in Regina, 18 to 21 September. It was attended by 20 teachers including five from out-of-town (Moose Jaw, Avonlea, Fillmore, Francis, and Sedley). Amongst the instructors were Don Kent, David MacDougall, Janis Dale, Doug Paterson, Ken Ashton, Kathy Bergman, Stephen Bend, and Nolan Shaheen. Several days later (3 and 4 October), the Eastend EdGEO workshop, organized by Joan Hodgins and led by John Lake, Fred Swanson and Tim Tokaryk, brought earth sciences to the focused attention of 13 teachers in the southwestern part of the province. The Committee gratefully thanks all who helped in any way to add to participating teachers' ability to communicate geological knowledge and appreciation to their students. The incredible financial support we received from both national and local sources was crucial in enabling organizers to provide participants with excellent resource packages. These sources were: the National EdGEO Program (\$2500), the S.G.S. (\$500), Wascana Energy Inc. (\$500), Vista Energy Inc. (\$500), Lateral Vector Resources Inc. (\$150), R.H. Brown Consulting Geologists (\$150), Nautilus Exploration and Associates Ltd. (\$162.50), Broadview Resources Ltd. (\$162.50), Helix Geological Consultants (\$100) and J.D. Mollard and Associates Ltd. (\$25). Other organizations assisted by providing in-kind materials; instructors', organizers' and participants' paid time; and other logistical support. Saskatchewan Energy and Mines was particularly generous in this respect.

In February (20 and 21), Bruce Ryan of the Newfoundland Geological Survey presented the Eleventh Annual Geoscience Lecture for Schools. Over the two days, he directly addressed about 1750 students on "*The Voisey's Bay Mineral Deposit: Diamonds to Nickels, Nickels to Dollars*". In addition, he reached an unknown number of students through a School Network telecast. Bruce put over a difficult topic for young people to be excited about with contagious enthusiasm. An important result of his effective delivery will be heightened awareness of ore deposits, and of some of the processes involved in their discovery and evaluation, in the minds of those who listened to what Bruce said and who saw the slides he showed.

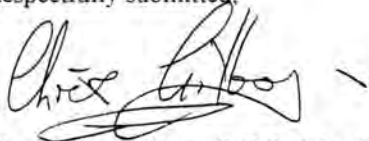
Whilst in Regina, Bruce also gave a public lecture at the Saskatchewan Science Centre on the evening of 20 February - it was entitled "*The Voisey's Bay Mineral Deposit in Labrador: Where did all that metal come from anyway?*".

Other educational areas in which the S.G.S. was active include:

- i) Input into the PanCanadian Framework for Science Curricula through commenting on the final draft open to public feedback. We subsequently received two copies of the "*Common Framework of Science Learning Outcomes*", prepared by the Council of Ministers of Education, Canada. The framework distinguishes requirements for life science, chemistry, physical science, physics, and earth and space science. We are hopeful that its recommendations will be widely implemented as they provide a strong basis for students to become scientifically literate.
- ii) Purchase of rock and mineral specimens for classroom visits by S.G.S. members.
- iii) Earthnet: the website maintained by the Atlantic Geological Society to provide earth science teachers in Canadian schools with geological information and with links to other geological websites so that they can easily find data they need for class preparation. We are exploring with a computer consultant from SaskEd the feasibility of having direct input into the Saskatchewan section (which is of particular pertinence to teachers in this province) of Earthnet.
- iv) We started to look into how our and other science-oriented projects within Saskatchewan - Innovators in the Schools, for example, currently largely dependent on A.P.E.G.S. funding for survival, and Project WET which gives teachers insight into all sorts of aspects of wetland habitats - might co-ordinate efforts to everyone's advantage, particularly students'.
- v) We gave illustrated presentations in classrooms and attended career fairs upon request.

In closing, I acknowledge the S.G.S. Executive for its exceptional support of this important aspect of our society's operations. The committee was sorry to lose the services of Ernie Toth, the Buffalo Plains School Division's representative, due to retirement and John Smith of the Saskatchewan Science Centre. We appreciate all the contributions they made over the years, and welcome Brenda Edwards, Ernie's successor, and Joan Johnson-Konechny, John's replacement. On a personal note, I thank Brenda and Joan along with everyone else serving on the 1997 Committee for their thoughtful and valuable input: Kim Kreis, Fran Haidl, Malcolm Wilson, Janis Dale, Carol Casswell, Leslie McMaster, Wayne Froh, Phil Reeves, Allan Melenchuck, John Lukomski, David MacDougall and Gary Delaney.

Respectfully submitted,



Chris Gilboy (Chair, S.G.S. School Liaison Committee)
21 May, 1998

GSC Outreach Highlights for 1997-98

Web Sites

- "Canadian Landscapes and Landforms", lots of pickup from teachers and many hot links. Yahoo "Pick of the Week" award.
- Earthquakes sites for eastern and western Canada expanded.

Public Events

1. Open Houses:

- Geomagnetic Lab (Ottawa) Open House, April 30 and May 2.
- Upcoming open houses at both Institute of Ocean Sciences and Bedford Institute, both October 1998.
- National Science and Technology Week, issue of leadership. Ottawa open house to go ahead.

2. Emergency Preparedness

- Thunderbird III, volcanic eruption simulation, Lower Mainland, January 1998.
- The Big One at One, earthquake preparedness, Victoria, May 1998.

GSC Educational Products

- Geoscape Vancouver (in every high school in Lower Mainland, and with every earth science high school teacher in B.C.) and GeoMap, soon to be released.
- Bulk GSC materials provided to Mining Association of B.C. and PDAC for curriculum packages and to Fundy Geological Museum for educational programming.
- New connections, various rock and gem shows, Nunavut groups.
- GSC input to National Geographic's new North America natural hazards map; bulk copies to be purchased as handout.

Connections with Educational Groups

- Queen's University Summer Institute for Geography Teachers, August 1997, half-day GSC workshop.
- Science Teachers Association of Ontario, GSC presence at next annual meeting (November 1998) and in program volume.

Museum Connections

- Significant input to Canadian Museum of Nature (Arctic Odyssey), Thetford and Asbestos mining museums, Nova Scotia Museum of Natural History (First Scientific Crossing of the Arctic Museum).

Media

- Discovery Channel, Mission Earth "Earthquake and Tsunami Prediction".
- CBC, Witness "Earthquake Hunters".
- Radio-Canada, Découvertes, hydrology work of CGQ.

Christy Vadden
May 19, 1998

Department of Earth Sciences
University of Western Ontario
London, Ontario

Report on School and Public Awareness of Geoscience

for

Canadian Geoscience Education Network Meeting
Quebec City, Quebec
May 21, 1998

prepared by
Richard A. Secco
May 12, 1998

INTRODUCTION

I am the current Chair of our Departmental Outreach Committee for the period July 1, 1997 - June 30, 1998. Since I will not be attending the GAC/MAC/IAH/CGU meeting, I submit this report of our outreach activities during the past eleven months for inclusion under Item 12, *Report of Activities of Member Societies and Institutions* of the CGEN meeting agenda.

Our activities have focused primarily on Geoscience awareness in local elementary and secondary schools but we have developed programs for public awareness of, and appreciation for, Geoscience as well. Our approach to outreach is both 'passive' and 'active' which means that we respond to outside requests when asked and participate in existing programs but also, we have initiated a structured program through which we solicit interest in Geosciences by offering lectures, demonstrations, hands-on activities and department tours to students in local schools. Approximately 70% of our current outreach is in the 'active' category. During the past eleven months, our Outreach Program has reached out to a total of 1119 people, the majority of whom live in London.

Our Outreach Program is carried out by all levels of departmental personnel including faculty and staff as well as graduate and undergraduate student volunteers. While many full-time faculty and staff see outreach as a professional responsibility, our experience has been that graduate and undergraduate students participate in outreach purely on a volunteer basis simply because they truly enjoy discussing their discipline with school children and the public. To recognize the outstanding commitment to outreach that some of our student volunteers have demonstrated, our Department now awards an annual monetary gift to the student who has shown extraordinary dedication to outreach during the previous one year period.

OUTREACH PROGRAM

Rock Garden

Our Outreach Program features a mature rock garden (see photos of the St. Marys Rock Garden at the following URL: http://www.execulink.com/~bmccoy/rock_garden.htm) on campus and is located next to the building which houses our Department. The rock garden and its use for outreach (and undergraduate teaching) has been fully described in a manuscript to be submitted soon to the Journal of Geoscience Education and was the subject of a poster presented at the GAC/MAC/IAH/CGU meeting in the Geoscience and Society Session - *New Partners in Earth Science Education*. Tours of the 1000 m² rock garden consist of age appropriate discussions ranging from the basics of minerals, rocks, and the rock cycle in the specimen boulder area to more advanced discussions and activities on mapping the stratigraphically oriented, in sequence as well as strike and dip, Precambrian boulders representing 21 lithologic units in the mapping exercise area. More than 600 visitors toured the rock garden during 1996 and 1997.

Focus on Earth

We have developed a series of lectures, departmental tours and hands-on activities for students ranging in age from elementary to secondary school. Information about this program,

called *Focus on Earth*, was mailed to several area schools (see example enclosed). We received 10 responses from teachers requesting one or more of the offered components and have been in direct contact with more than 250 students as a result. The content of the lectures and activities in *Focus on Earth* was designed to be interwoven with the new Ontario Science and Technology Curriculum which, for the first time, contains a significant Geosciences component and is introduced in Grade 1.

Rock Kit

We have developed a nine sample rock kit for free distribution to area schools. The kit is configured as a three-step plexiglas unit with each step holding 3 samples of each of the three rock classes. A colored map of Canada illustrating typical source locations of all rocks in the kit, the rock cycle, and a description of the processes of formation of the three rock types are displayed on separate panels on each side and on the back. Although we have just recently completed the prototype, the response at the April '98 Science Now! Elementary Teacher conference suggests this kit will be popular.

Southern Ontario High School Seismograph Network

We are preparing to install seismograph units in five area high schools. This project, called Students *Having Awareness and Knowledge of Earthquakes (SHAKE)*, has been recently funded by the Canadian Society for Exploration Geophysicists SuperFund in the amount of \$8,000. Each seismometer will be interfaced to a personal computer and displayed in a prominent area (such as a hallway) within each of the chosen schools to demonstrate the dynamic nature of our planet in a real time display and to generate excitement about the need for understanding Earth processes. In support of the *SHAKE* project, the nationally renowned Let's Talk Science program will maintain a web page regarding the network and recent events recorded on each participating seismograph and provide links for earthquake related sites and an 'Ask the Expert' (a Departmental member) site.

Departmental Participation in Let's Talk Science Programs

The Department responds to appropriate requests that come through Let's Talk Science. Departmental members are also involved in programs developed and offered through Let's Talk Science such as dinosaur activities and kits for summer science camps. In addition, several graduate students are each paired with a London school teacher in the Partnership Program and have prepared and delivered various Geoscience units to their respective classes throughout the school year.

Departmental Displays, Lectures and Other Activities

The Department has participated in and/or organized numerous public displays and recruitment activities in association with various university, community, provincial and national groups. The centerpiece of most of our displays is our Departmental Display Panel which highlights the work of a Geoscientist in industry and includes a short description of the types of emergent problems and research topics that a Geoscientist in academia studies.

A partial list of the displays and activities we have participated in follows:

University of Western Ontario Open House - tours of Departmental facilities for high school students from all over Ontario.

Interactions '98 - University sponsored weekend event to attract the region's top students entering university next year

Fossils Lecture Series - a series of 5 lectures on paleontology was given at the main city library. In total, approximately 100 people attended this lecture series

London Gem and Mineral Society - a lecture was given at this society.

Pioneer Village - in conjunction with this local heritage site, we are developing a cooperative dinosaur and geological time display.

Royal Ontario Museum (ROM) - Departmental members have served as guides in the ROM Dinosaur Mobile, temporarily on site at the London Children's Museum.

National Science and Technology Week - Departmental display at a local shopping mall

Science Now! - one day conference for regional elementary school teachers.



Directory of the Canadian Geoscience Education Network

NAME	ORGANIZATION	PHONE	FAX
Dileep Athaide	B.C. Colleges- Universities Earth Sciences articulation committee	604-984-1771	604-984-1718
Chris Barnes	Council of Chairs of Canadian Earth Science Departments	604-721-8847	604-721-6200
Jennifer Bates	Atlantic Geoscience Society	902-426-4386	902-426-4848
Kathy Bergman	EdGEO executive committee	306-585-4679	306-585-5433
Tim Bodger	Canadian Exploration Geophysical Society		905-669-6403
Mia Boiridy	Science North, Sudbury 99	705-522-3701 ext. 231	705-522-4954
Brian Bornhold	CGC, International Director		
Michel Bouchard	Assoc. Prof. des Géologues et des Géophysiciens du Québec	514-343-7542 514-496-1856	514-343-5782
Alan Boulton	Royal Society of Canada	306-966-8571	306-966-8830
Duncan Carswell	CGC, president elect	403-240-4397	403-242-6272
Bob Christman	Coalition for Earth Science Ed	360-650-3587	360-650-7302
John Cox	CSPG	403-240-6160	403-240-
Loretta Crisby-Whittle	Newfoundland Geological Survey	709-729-2166	709-
William Davitt	CGC - Committes Director	403-287-1769	403-262-7383
Patricia Dillon	PDAC	416-978-5252	416-878-4820
Gordon Domm	EdGEO Executive	306-791-7305	306-751-0000
Al Donaldson	Carleton University	613-520-2600	613-520-4490
Jon Dudley	Geological Association of Canada	403-284-7403	403-284-7589
Larry Dyke	Canadian Geotechnical Society	613-996-1967	613-992-2468
Pam Eaton	Canadian Geophysical Union		
Dixon Edwards	Edmonton Geological Society	403-422-1927	403-422-1459
Laing Ferguson	Past-Chairman, CGEB Mount Allison U.	506-364-2310	506-364-2583

Derek Ford	Canadian Association of Geographers	905-525-9140	905-546-0463
John Gartner	International Association of Engineering Geology	905-477-8400	905-477-1456
Leanne Gelsthorpe	Waterloo Centre for Groundwater Research	519-888-4567 ext. 5003	519-725-8720
Myra Gerow	Geological Society of CIMM	705-670-5828	705-670-5816
Chris Gilboy	EdGEO executive	306-787-2573	306-787-4608
Fran Haidl	Chair, EDGEO Program	306-787-6116	306-787-4608
Jeremy Hall	CGC, Issues Director	709-737-7569	709-737-2589
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Louisa Horne	Scientists and Innovators in the Schools, Nova Scotia	902-422-7323	902-492-2223
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Robert McNutt	President - CGC	905-828-5211	905-569-4349
Alan Morgan	Canadian Geoscience Council	519-885-1211 ext. 3029	519-746-7484
Dana Naldrett	CANQUA	403-220-1932	403-220-1933
Ward Neale	Royal Society of Canada	403-289-3583	403-292-5377
Godfrey Nowlan	Geological Association of Canada	403-292-7079	403-292-6014
Toon Pronk	New Brunswick EdGEO rep.	506-453-7943	506-444-4176
Carolyn Relf	NWT Energy, Mines and Petroleum		
Paul Robinson	Geological Assoc of Canada	902-494-2361	902-494-3877

Brian Roulston	Atlantic Geoscience Society	506-433-5445	506-433-6617
David Rudkin	Royal Ontario Museum	416-586-5592	416-586-5863
Peter Russell	University of Waterloo	519-888-4567 ext. 2469	519-746-7484
Richard A. Secco	University of Western Ontario	519-661-3187	519-661-3198
Mark Skalinski	Canadian Well Logging Society	403-234-5239	403-234-5947
Denis St-Onge	CGC - past president	613-947-1652	613-992-0190
Pierrette Tremblay	Mineralogical Assoc. of Canada	418-654-2650	418-654-2615
Vic Tyrer	Ontario Science Centre	416-696-3255	416-696-3197
Christy Vodden	Geological Survey of Canada	613-995-3084	613-995-3082
Gordon Williams	Canadian Council of Professional Geoscientists	403-247-3225	403-247-3225
Graham Williams	Atlantic Geoscience Society	902-426-5657	902-426-4465
Jamie Wills	Can. Chapter. IAH/CNC	403-237-9300	403-426-4465

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