

GEOLOG

The Newsmagazine of the Geological Association of Canada

Geological
Association of
Canada

c/o Department of
Earth Sciences

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of Newfoundland

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Farewell Craig... and thanks!

It has been a tumultuous year, changes of government across the country, a new Prime Minister and now, 'gasp', upheavals in the editorial suite at *Geolog*. Our long-time editor and publishing guru, Craig Hart is handing over the reins to Karen MacFarlane, not we hasten to add, as the result of an internal coup but due to Craig's desire to focus on his science career. Faithful readers will be familiar with the changes that Craig has wrought at *Geolog*. He first came to the exalted position of editor in the year 1999, after he innocently responded to a GAC survey on future directions for the newsletter. As the reward for his insightful



Craig Hart looks to the future...

and hard-hitting analysis of what he thought this direction should be, Craig received an invitation to put his ideas into practice (moral: be careful how you respond to GAC questionnaires!). The rest, as they say, is history.

Craig revolutionized the look of *Geolog* and turned it from simply a GAC newsletter into a publication that explored issues of interest to the Canadian geoscience community as a whole.

He was proactive as an editor, adding his own, often pithy, insights into issues of the day. As well as broadening the scope of *Geolog*, he also mastered the complex blend of art and technology that is desk-top publishing, and became in effect a one-man publishing shop.

All of this took place whilst Craig was doing his day job as a geologist with the Yukon Geological Survey, where he specializes in mineral deposit research, and working toward a

doctorate degree at the University of Western Australia. Trying to track Craig down could be difficult because of his field work and frequent commutes between Yukon and Australia, however, he has amply proved that as long as you have some time, a laptop and occasional high-speed access to the internet, you can be anywhere in the world - from camps in the Outback to the aisle seat of a 747 - and still produce *Geolog*.

We owe much to Craig and will miss the familiar *Craig* at the end of each editorial. Good luck Craig, and enjoy your 'retirement'!

*On behalf of GAC: Dick Wardle,
Publications Chair*

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GEOLOGICAL ASSOCIATION OF CANADA

The MISSION of the Geological Association of Canada is to facilitate the scientific well-being and professional development of its members, the learned discussion of geoscience in Canada, and the advancement, dissemination and wise use of geoscience in public, professional and academic life.

The VISION of the Geological Association of Canada is a geoscience community that is knowledgeable, professionally competent and respected, whose input and advice is relevant, widely sought and utilized, and whose vital contribution to the economic prosperity and social well-being of the nation is widely acknowledged.

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GEOLOG (ISSN 0227-3713) is the quarterly newsmagazine of the Geological Association of Canada, St. John's, Newfoundland and Labrador. GEOLOG is published for the benefit of GAC members and its content reflects the diversity of the organization. News items and short articles on topics of potential interest to the membership including public geoscience awareness are encouraged. Also encouraged are communications promoting interaction among academic, industry and government sectors. GEOLOG accepts and publishes contributions in both of Canada's official languages. Opinions expressed herein are those of the writers and do not necessarily represent the official positions of the GAC. GEOLOG is one of several forums provided by the GAC for scientists worldwide.

SUBSCRIPTIONS: GEOLOG is one of the privileges of GAC membership. To become a member, application forms are available by mail or fax from the Geological Association of Canada, or can be printed from the website. GEOLOG subscriptions to non-member institutions are available, see the website for details.

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GEOLOG (ISSN 0227-3713) est le bulletin trimestriel de l'Association Géologique du Canada, à St. Jean, Terre-Neuve-et-Labrador. GEOLOG s'adresse aux membres de l'AGC et son contenu reflète le caractère polyvalent de cette organisation. Nous invitons la soumission de nouvelles et articles courts pouvant intéresser les membres, incluant les thèmes de sensibilisation du public aux sciences de la Terre. Les articles suscitant des échanges d'opinions et d'informations entre les secteurs académique, industriel et gouvernementaux sont également la bienvenue. GEOLOG accepte et publie les articles dans les deux langues officielles du Canada. Les idées sont celles des auteurs et ne représentent pas nécessairement la position officielle de l'AGC. GEOLOG n'est qu'un des nombreux forums offerts par l'AGC aux scientifiques à travers le monde.

ABONNEMENT: L'abonnement à GEOLOG est un des privilèges dont bénéficient les membres de l'AGC. On peut se procurer un formulaire d'adhésion par courrier ou par fax en communiquant avec l'Association Géologique du Canada. Une copie de ce formulaire peut aussi être imprimée à partir de notre site Internet. Le coût de l'abonnement pour non-membres.

PUBLICITÉ: Nous acceptons la publicité rémunérée. Une copie prête pour la reproduction est préférable. Veuillez communiquer avec le Rédacteur en chef pour des renseignements additionnels à ce sujet.

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The Atlantic Geoscience Society presented awards to deserving individuals at their recent Colloquium. Read all about it on page 10.

This GEOLOG benefits from the contributions and assistance of Harvey Thorleifson, Robert J. Elias, William C. Brisbin, Sandra Barr, Mike Villeneuve, Reg Wilson, Sean Fleming, Sandy McCracken, Sonya Dehler, Dave Sauchyn, Ray Price, Kevin Ansdell, Art Dyke, Doug Hodgson, Lynda Dredge, Richard Wardle and Karen Dawe. Apologies to any I have missed. A special thank you to those at GAC HQ who have taken over the layout of GEOLOG and to Sandy McCracken for his sharp eye in proofreading. As the new kid on the block I thank all who have tried to get me going in the right direction, any wrong turn is my fault alone. This GEOLOG was produced with support from the C.S. Lord Northern Geoscience Centre in Yellowknife, Northwest Territories. Your contributions for future editions are welcome.

- KEM

The Canadian Geoscience Knowledge Industry

Who are we? We are geologists, geoscientists, and earth scientists. We are represented by the Canadian Geoscience Council (CGC). The P.Geo.'s among us report to the Canadian Council of Professional Geoscientists (CCPG). Those of us in business see our interests represented by groups such as PDAC, CAPP, and CIM. GAC has a broad role in science - and we need to ensure that we are representative of the full range of earth science. And one way to view our role is in supporting the progress of the Canadian geoscience knowledge industry.

The CGC provides a forum for communications, discussion, and debate, to ensure the effectiveness and influence of the geosciences in addressing the needs of the people of Canada. GAC works to ensure the progress of knowledge, while CCPG tends to professional regulation, and business groups such as PDAC address issues such as taxation. Within the science world, specialist groups support the needs of their constituencies. At the CGC table, GAC works with specialist groups, and joins with business groups and CCPG, along with representatives of Universities and Surveys.

According to CCPG, geoscience is a regulated profession in eleven of the thirteen provinces and territories. More than 7,600 geoscientists are licensed in Canada, and CCPG expects this number to reach 10,000 within two to three years. We can learn from engineers, who are encouraged to be a member of at least one engineering society in addition to their provincial licensing association, due to their role in encouraging research and disseminating new information.

Many of us are members of business-based groups such as PDAC, CIM, or the BC & Yukon Chamber of Mines. These are geoscience-related business sectors who measure their success in financial terms. PDAC represents the interests of the mineral exploration industry through advocacy, information, and networking. With over 12,000 national members, CIM is the leading technical society in the Canadian minerals, metals, materials, and energy industries. And the British Columbia & Yukon Chamber of Mines is Canada's oldest mining association, with a membership from all facets of the mining industry.

So, while CCPG polices registration, and the business groups optimize their operations, GAC and specialist groups have a responsibility to optimize the progress of knowledge. By thinking of our sector from an economic perspective, we could be regarded as the geoscience

HARVEY THORLIEFSON

Presidential Preamble



knowledge industry. Our revenue is funding, and our product is knowledge. Sectors that produce geoscience knowledge in Canada include hydrocarbon exploration, mineral exploration, the federal geological survey, provincial and territorial geological surveys, research, and consulting.

Our largest sector in geoscience knowledge generation, by far, is exploration for oil and gas. Recent expenditures in hydrocarbon exploration have been about \$6B per year, about half of which is spent on drilling, with the remainder split between geological and geophysical surveys, as well as land acquisitions and rentals. These investments in knowledge support an energy industry that provides over 6% of Canadian GDP, at \$65B per year in sales, and direct employment of 225,000 people.

The most recent 'Overview of Trends in Canadian Mineral Exploration' indicates that expenditures have recently been about \$500M per year. Easier access to financing, a rising gold price, and a sustained search for diamonds have contributed to recent buoyancy. Governments have been highly innovative in supporting and promoting mineral exploration through fiscal incentives, the resolution of land access issues, and the provision of geoscientific data. These investments in knowledge support a mining industry that provides 4% of Canadian GDP, at \$38B per year in sales, and direct employment of 355,000 people.

Geological Survey agencies carry out the geological, geophysical, and geochemical mapping that we require. Provincial and Territorial Surveys map their regions, while GSC addresses cross-border topics, brings specialization to cooperation with provinces and territories, and addresses topics left to the Federal Survey. Along with their core mapping and monitoring roles, Surveys carry out research to ensure that their activity is linked to conceptual advances, and to ensure that their scientists are experts in their fields. The total GSC budget is



(Continued from *Presidential Preamble*, page 4)

about \$70M, while funding for Provincial and Territorial Surveys is \$60M per year.

Total annual funding of basic geoscience research in Canada, primarily distributed by NSERC, is about \$50M - about half grants and half research partnerships, along with training support. Our success in competing for research funds in recent years has not been as impressive as that achieved by some other fields, leading to calls for greater effort in defining research targets, pursuing funding for them, attracting excellent scientists, and enhancing public awareness of the value of the work.

Estimates for sales of geoscience knowledge by consultants in the geotechnical and environmental fields have been elusive during my brief search - I welcome e-mails on this topic. A CGC census in 2001 indicated that 12% of the 3000 respondents were in this field. If we are to believe rumours that there are 15,000 geoscientists in Canada, this would imply a total of nearly 2,000 practitioners in this field, who must be supported by something on the order of \$0.5B in revenue, rounded off to the nearest half billion!

So if we tally up what is seen here as the Canadian geoscience knowledge industry, a \$6B annual expenditure on hydrocarbon exploration, \$500M on mineral exploration, \$130M per year on geological surveys, \$50M per year in basic geoscience research, and an unknown total on geotechnical and environmental geoscience consulting, we see an industry that adds up to about \$7B per year, in the ballpark of 1% of Canada's \$1050B GDP.

GAC can best serve Canada by effectively supporting the progress of the entire Canadian geoscience knowledge sector. The measure of our success can be the pace at which knowledge is acquired, and the degree to which this new knowledge is enhancing the lives of Canadians. We can achieve this by strongly supporting the role of all specialist groups, and by obtaining the support and recognition of the entire Canadian earth science community.

Emails are welcome at thorleif@umn.edu.

TAG, I'm It!

Looking back at the summer 2003 issue of *GEOLOG* it became apparent from Craig's Editorial that he was thinking of moving on and looking for someone else with a busy schedule to take over. Since I was in the middle of what seems an endless amount of work, and with the next *GEOLOG* deadline looming only 2 weeks away, I considered myself busy enough to volunteer. I feel somewhat overwhelmed but I am looking forward to carrying on in Craig's footsteps (huge footsteps from what people tell me).

Living as we do in the electronic age has allowed for those of us living in the north to take advantage of an opportunity like editing *GEOLOG*. Something equally as important is having managers and coworkers, like those here at the C.S. Lord Northern Geoscience Centre in Yellowknife, to support such an endeavor.

Editing *GEOLOG* became my responsibility the first week of February, and thus this issue has had to rely heavily on the work of the GAC Executive. I am grateful for all of their efforts and help in keeping me current with what goes on in the outside world.

While *GEOLOG* is bound to change over time with different people offering different ideas, what won't change is the desire for membership input. I look forward to working with everyone involved in publishing *GEOLOG* and hope to hear from you, the readers.

Again, thanks to all to have helped ease me into this job.



Karen MacFarlane
GEOLOG Editor

Information for Contributors/Directives aux Auteurs

Submissions are preferred as digital files sent as e-mail attachments to karen_macfarlane@gov.nt.ca or on a disc via the post to the Editor. Discs will be returned if sent with self-addressed mailer. Documents should be sent as unformatted text (*.doc, *.txt or *.rtf) files.

Graphics should be as CorelDraw (*.cdr), Windows metafiles (*.wmf) or Acrobat (*.pdf) file types, and images should be at 300 dpi, greyscale without internal compression (preferably *.tif). Files greater than 2MB should be compressed or zipped before sending via e-mail. Additional information on other file formats can be obtained from the Editor. Hard copy text, graphics and photo images are also welcome. All contributions may be edited for clarity or brevity.

Submission Deadlines for 2004:

May/Mai 28, September/Septembre 10 and/et
November/Novembre 26.

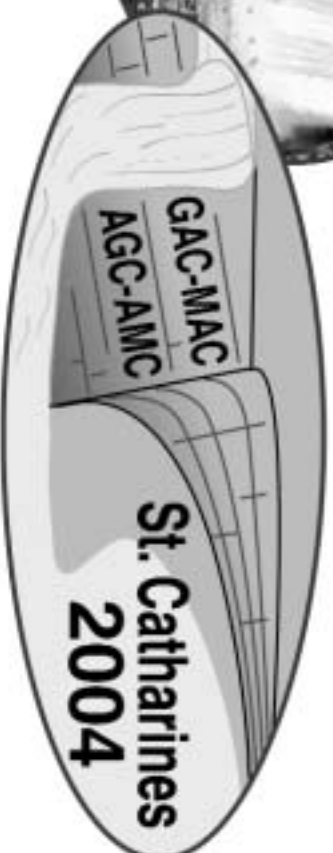
Nous préférons que les articles nous soient soumis sous forme de fichiers numériques, annexés à un courriel, ou sur disquette, par courrier conventionnel adressé au Rédacteur en Chef. Les disquettes seront retournées si elles sont accompagnées d'une enveloppe affranchie avec adresse de retour. Les documents doivent nous parvenir en version texte non formaté (*.doc, *.txt ou *.rtf). Les graphiques doivent avoir un format CorelDraw (*.cdr), Acrobat (*.pdf) ou Windows metafiles (*.wmf), et les images doivent avoir une résolution de 300 dpi dans un format non comprimé (préférentiellement *.tif). Les fichiers de dimensions supérieures à 2 Mo doivent être comprimés avant envoi par courriel. Veuillez communiquer avec le Rédacteur en chef en ce qui concerne la possibilité d'utiliser d'autres formats. Nous acceptons aussi une copie imprimée sur papier du texte, graphiques et images. Le Rédacteur en chef se réserve le droit de modifier l'article à des fins de clarification ou de brièveté.



Lake to Lake

Geological Association of Canada
Association géologique du Canada

Mineralogical Association of Canada
Association minéralogique du Canada



**Mineralogical
Association of Canada**
Association minéralogique
du Canada

D'un lac à l'autre

May 12-14, 2004
12-14 mai, 2004

Joint Annual Meeting
Congrès annuel conjoint

www.stcatharines2004.ca/

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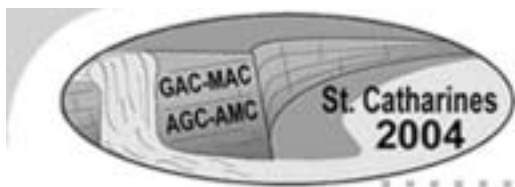
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Geological Association of Canada
Mineralogical Association of Canada

A reminder to all GAC Members

The Joint Annual Meeting of the Geological Association of Canada and the Mineralogical Association of Canada is being hosted for the first time by the Department of Earth Sciences at Brock University in St. Catharines between May 12 and 14. The Local Organizing Committee has already developed a broad technical program of symposia, special and general sessions, short courses, workshops, and field trips built around the meeting theme, "Lake to Lake", that will interest all geoscientists. The details are provided in the conference website at:

www.stcatharines2004.ca.

Early registration for the conference will be available on the website beginning March 1 and ending on April 16, although late registrations can also be processed through the website or on-site. Inexpensive and comfortable bed-and-breakfast accommodation is available on campus, and lunches are also included in the cost of registration. Parking on campus is also free for those who are planning on driving from the population centres of central Ontario.

For those coming from further afield, St. Catharines is ideally situated close to major airports in Toronto, Hamilton, and Buffalo, and is perfectly located to take advantage of the tourist attractions of the Niagara region.

The Local Organizing Committee should be congratulated for developing an exciting technical program, and a very affordable conference.

See you in St. Catharines!

Kevin Ansdell
GAC Science Program
Committee Chair

Howard Street Robinson Fund

The Robinson Fund was established in 1977 by the Geological Association of Canada, using a bequest from the estate of Howard Street Robinson. The fund is dedicated to the furtherance of scientific study of Precambrian Geology and Metal Mining by:

- * sponsoring an annual Distinguished Lecturer Tour whose focus alternates between Precambrian research and economic geology (lecturer alternately chosen by the GAC's Precambrian and Mineral Deposits divisions);

- * supporting Special Projects including publications, symposia and conferences.

Proposals for special projects on Precambrian Geology or Metal Mining should be submitted to the Robinson Fund Committee. Projects should be sponsored or organized through the GAC or one of its Divisions or Sections. Proposals that have a wide appeal or degree of accessibility to the GAC membership are preferred.

For further information and proposal submissions, please contact:

Benoit Dube, Chairman, Robinson Fund
Geological Survey of Canada
880, Chemin Sainte-Foy; Bureau 840
Quebec (Quebec) G1S 2L2
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bdube@nrcan.gc.ca



GAC Council Highlights - An Update for 2003

One of the pleasant duties assigned to the Vice-President of GAC is the provision of information to members about Council and Headquarters activities via our association's newsletter, *Geolog* - so here it is for 2003. As you may realize, GAC has four main "business units" (Publications, Program, Communications, and Finance), and hence it makes sense to describe activities under each of these headings. GAC's current President, Harvey Thorleifson, has tried to ensure that Councillors have clear roles within one or more of these business units. Hence, keep in mind that the information summarized below is generally a "group effort".

I would like to take this opportunity to thank the Department of Geology at the University of Toronto for hosting the Fall 2003 GAC Council meeting and providing lunch on Saturday, as well as coffee and snacks, and SRK Consulting for providing lunch on Sunday.

Publications

If you were at the Vancouver 2003 annual meeting, or have visited the GAC Bookstore (located at <http://www.gac.ca/bookstore/>) recently, you will be aware that GAC publications have experienced resurgence! GAC published 4 new books in 2003, and a further 4-5 are anticipated for 2004. These publications were brought about by a lot of hard work by dedicated people, including of course the authors but also Sandy McCracken, who completed his term as Chair of the Publications Committee in May, 2003, Dick Wardle, who took over Sandy's role in May 2003, and Karen Dawe and Arlene Power, the headquarters staff members responsible for overseeing publications. These activities are turning publications from a



money-losing to a money-earning venture for GAC, as well as enhancing GAC's profile in the geoscience community nationally and internationally.

Communications

The terms of references for the various GAC medals and

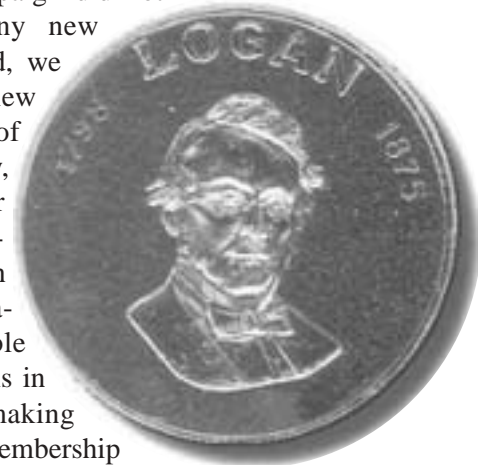
**Sandra
Barr**



Vice-President, GAC

awards were revised and clarified in 2003. A major change was in the name of the Past-Presidents' Medal, now to be known as the Hutchison Medal. A fund raising campaign is in progress so that the lecture tour that used to be undertaken by the winner of this medal can be re-established. It was also decided that, beginning in 2004, the GAC medal and award winners will be announced prior to the annual meeting. This "advance notice" is intended to facilitate attendance at the awards ceremony by colleagues, family, and friends of the winners.

GAC conducted a Membership Campaign in the Fall of 2003 under the leadership President Harvey Thorleifson. Although the campaign did not result in as many new members as hoped, we did gain some new members, a lot of positive publicity, and a large number of "early renewals", which saves the association considerable money. Council is in the process of making changes in the membership requirements of GAC, in recognition of the considerable broadening of Earth Sciences that has taken place during the past couple of decades. These changes will require changes to the Association By-Laws, and members will have an opportunity to express their opinions and vote on the changes at St. Catharines 2004.



Council approved the formation of a new Isotope Science Division, and continues to work toward enhanced communication with all of GAC's Sections and Divisions.

Program

GAC's science program is delivered mainly through its

(Continued from Council Highlights, page 8)

annual meetings, and the meetings in St. Catharines 2004, Halifax 2005, and Montreal 2006 are well in hand. In addition the venues were approved for Yellowknife 2007 and Quebec City 2008. Possible future sites are Toronto in 2009 and Calgary for GeoCanada 2010.

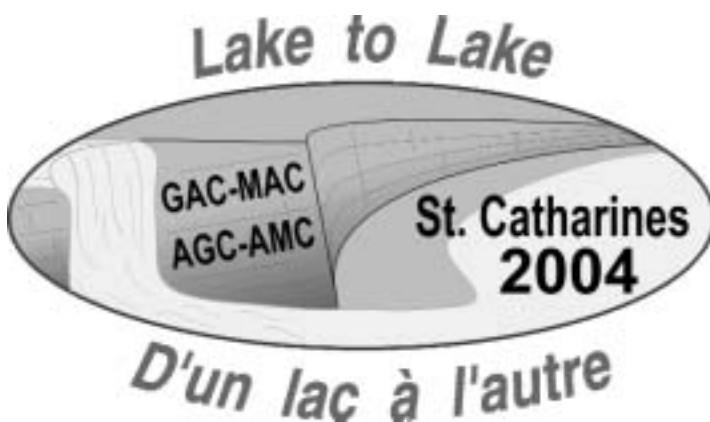
Changes were made in the duties of GAC Headquarters staff so that they could handle abstract submission and registration for St. Catharines 2004 and subsequent meetings.

Council approved in principle a joint GSA-GAC Earth System Processes 2 meeting to be held in Calgary in August 2005. Negotiations are on-going with the Geological Society of America concerning the details of this meeting.

Finances

Society finances continue to be a major concern of Council. The Fall Campaign brought in some new members but not as many as hoped, and student and retired members cost GAC more than they pay in dues. Initiatives were made to increase fund-raising and develop better marketing strategies for GAC. Fortunately, a stronger economy is helping GAC's investments grow under the watchful eye of Finance Committee Chair Robert Marquis.

The GAC Endowment Trust Fund was established as part of the Canadian Geological Foundation. Through this fund, tax-deductible donations can be made to support and promote Earth sciences in Canada, and in particular to assist with the public and professional educational activities that are normally supported by GAC.



New Isotope Science Division joins the GAC

At long last, isotope lab weenies in Canada now have a place to call home! Instead of worrying about boring your fellow geoscientists to tears with discussions of plasmas, potassium decay constants or standard deviation of data, there is now a common ground for kindred souls. At last fall's GAC Council meeting, the formation of the new "Isotope Sciences Division" was formally approved after being created out of informal meetings at the Saskatoon and Vancouver GAC Annual Meetings. This division represents and promotes the interests of Canadian scientists who:

- * are concerned with the application of isotopes in the earth and environmental sciences.

- * want to promote and encourage the understanding and application of isotopes in earth and environmental science by promoting meetings, symposia, field conferences and short courses.

- * want to encourage the publication of papers relating to all aspects of isotopes, particularly those for publication in C.J.E.S. and in GAC publications.

- * want to provide a forum for dialogue between isotope practitioners, particularly to facilitate communication between those active in conventional isotope applications and those in new or emerging areas of isotope application.

Currently, planning is underway for the inaugural meeting of the Division and introduction of the first Executive Council at the St. Catharines GAC meeting, with nominations/volunteers being considered for the Executive Committee. The Division is working towards sponsoring a short course and special session at the Halifax GAC meeting in 2005. Further details should be emerging as guilt-inducement begins to bring out volunteers and the division structure takes shape. Anyone interested in participating in or belonging to the Division should contact Mike Villeneuve (Mike.Villeneuve@nrcan.gc.ca) or Kevin Ansdell (kevin.ansdell@usask.ca).

Help, suggestions, and expressions of interest are much appreciated.

Mike Villeneuve

CANQUA 2005

The next biennial meeting of CANQUA (Canadian Quaternary Association) will be June 5-10, 2005, in both Winnipeg and Regina, with a mid-conference fieldtrip across the eastern Canadian Prairies linking the two venues. Various special and general sessions will accompany a session honouring Vic Prest. For more information consult the CANQUA web site (www.mun.ca/canqua/) or contact Co-Chairs D. Sauchyn (sauchyn@uregina.ca) or J. Teller (tellerjt@ms.umanitoba.ca).

Annual Colloquium of the Atlantic Geoscience Society

The Atlantic Geoscience Society's Colloquium and Annual General Meeting was held at the Delta Beauséjour Hotel in Moncton, NB, on January 30-31, 2004. The varied program for this year's event began on Friday afternoon with a tour of the Potash Corporation of Saskatchewan potash mine near Sussex, NB, and an Ion Microprobe workshop organized by Alan Anderson of St. Francis Xavier University. The latter was attended by 55 professionals and students, who heard presentations on instrumental developments and applications of the ion microprobe in fields ranging from climate change to geochronology. The elite cast of presenters included Steve Clement (Ion Optical Consulting), Mike Hamilton (Jack Satterly Geochronology Lab) and Graham Layne (Woods Hole Oceanographic Institute), who were followed by a group discussion on the possible establishment of a regional ion probe facility.

About 180 registrants enjoyed the technical program, which included special sessions on Environmental Geology, Hydrocarbon Geology and Geophysics, and concurrent General Sessions on diverse areas of current research in the Atlantic Provinces. The Geophysics session warrants special mention as it was the first of what is expected to be many future special geophysical sessions in memory of J. Ewart Blanchard, F.R.S.C. Dr. Blanchard (1921-2003) was the first geophysicist at Dalhousie University, pioneered the application of many geophysical methods in resource development in Nova Scotia, and supervised many students who went on to become prominent members of the



Dr. Alan Grant accepts the AGS Distinguished Scientist Award in honour of his exceptional contributions to the advancement of geoscience in the Atlantic region.

geophysical community. Student participation has become an important part of AGS Colloquia in recent years, and this was no exception, with 15 oral and 19 poster presentations by Atlantic area students. Each year, the calibre of student presentations is a source of astonishment to the professional members of the audience, and of consternation to the judges who must choose winners from among these outstanding efforts.

A highlight of each year's festivities is the awards banquet, when AGS members have the opportunity to honour those who have made exceptional contributions to the Society and to the advancement of geoscience in the Atlantic region. This year's winner of the Society's Distinguished Scientist Award (Gesner Medal) is Dr. Alan Grant, emeritus geoscientist at the Geological Survey of Canada (Atlantic). Dr. Grant's major achievements involve the compilation of geological and geophysical data from the east coast offshore area over a period of nearly 50 years; such work has been invaluable in the development of the Atlantic petroleum and natural gas industries. Jennifer Bates, also of GSC Atlantic, is this year's winner of the AGS Distinguished Service Award, primarily for her outstanding efforts in educational outreach activities such as the Nova Scotia EdGeo workshops, EarthNet, and the publication of *The Last Billion Years: A Geological History of the Maritime Provinces of Canada*. The Graham Williams Award for best student poster was claimed by Shawna Weir Murphy of St. Mary's University ("Cretaceous rocks of Orpheus Graben, offshore Nova Scotia"), while the Rupert MacNeil Award for best student (oral) presentation went to Chris Hamilton of



Jennifer Bates accepts the AGS Distinguished Service Award for her efforts in educational outreach activities.

Ore Gangue 70th Anniversary Celebration

The Ore Gangue, the oldest undergraduate society at the University of Saskatchewan, was formed in January, 1934, and has been the life blood of the Department of Geological Sciences since it formed. The Department and the present Ore Gangue are organizing a weekend of activities in early May to celebrate the last 70 years of geoscience at the University, and invite all alumni to attend. It should be a fabulous weekend during which you will be able to catch up on old friends in a variety of social events, visit the new Geology Building, see the great expansion on the University campus, listen to presentations from distinguished alumni, provide mentorship and job opportunities to the new generation of undergraduates, and reminisce about life in the Ore Gangue. Bring your family and enjoy a Spring weekend in Saskatoon!

Organization for the 70th Anniversary Celebration is underway. For information on the event please go to www.usask.ca/geology/ and follow the obvious link to the Ore Gangue 70th Anniversary Celebration page. The website will be continually updated, and will include a list of possible attendees, sponsors, accommodation, and information on events and registration as they develop.

Although there will be a registration fee, we hope to keep the cost as low as possible, and registration forms

should be available on line by March.

Social events will be an important element of the weekend, just as they have formed the framework of Ore Gangue camaraderie over the years. As part of these events we are developing a power point slide show which will capture some of your favorite and special pictures from your days at the University. However, we need your help. If you have photographs of your favorite professor, field trip, or student gathering, please contact

**Department of Geological Sciences
University of Saskatchewan
May 7-9, 2004**

Angie Simpson (angbil@telusplanet.net) or Tracey Jungwirth (traceyjun@shaw.ca). All pictures will be returned.

If you might be interested in attending, please send a brief email to oregangue.70@usask.ca. The email should include name and year of graduation. In this way we can make sure that our database is up-to-date for upcoming information. Note: to date there are approximately 100 people interested in attending. Check out the website to see who is coming! Also, please contact any Ore Gangue alumni you know to make sure that the reunion is widely advertised. For any further information or queries please contact:

Kevin M. Ansdell, Acting Head, Department of Geological Sciences, University of Saskatchewan, 114 Science Place, Saskatoon SK S7N 5E2, Tel 306-966-5698 or 5695, Fax 306-966-8593, kevin.ansdell@usask.ca

(Continued from AGS Collouiquim, page 10)

Dalhousie University for his talk entitled "Ice-contact volcanism in southwest Iceland: analysis of hyaloclastite flow deposits using remote sensing, stratigraphy, and geochemistry".

The evening was capped by a fascinating presentation from guest speaker Djordje Grujic of Dalhousie University.

Djordje's talk, "Journeys in the Kingdom of the Flying Dragon: Mountains, People and Geology of the Bhutan Himalaya", was a captivating travelogue through an exotic and poorly known part of the world.

The success of this year's Colloquium owes much to the efforts of Sue Johnson of the New Brunswick Geological Surveys Branch, who chaired the organizing committee, and committee members Mike Parkhill, Peter Wallace, Ian Spooner, and Ian's band of Acadia U. students who assisted with audio-visual equipment: Cameron Bartsch, Robin Black, Lori Cook, Russell Hiebert, and Tansy O'Connor-Parsons. Thanks are also due to Brian Roulston of PCS, who led the potash mine tour, Ken Howells for organizing the J.E. Blanchard Special Session on Geophysics, Alan Anderson for the Ion Microprobe Workshop, and Dave Keighley, Erin Smith and Maurice Mazerolle for assistance with set-up and (or) registration.

Finally, the financial burden of the conference was greatly relieved by corporate sponsors PCS-New Brunswick Division, the Mineralogical Association of Canada, Corridor Resources Ltd., Freewest Resources Ltd., McGregor Geoscience Ltd., and St. Francis Xavier University.

Reg Wilson


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Geostamps...and more

On August 7th, 2003 Germany issued a stamp illustrating the Chemnitz petrified forest. The area around Chemnitz is the type region for many Early Permian fossil plant taxa. These silicified plants have been the subject of study since the mid-1800s, and many of the fossil stems formed a petrified forest in the Chemnitz's natural history museum [see *Review of Palaeobotany & Palynology*, v. 120:179-180 for a review of a well-illustrated book produced by the Museum für Naturkunde Chemnitz]. The German postal website (at: <http://philatelie.deutschepost.de/philatelie> and type "Chemnitz" in the search box) shows that the 144 Euro stamp is available in a minisheet of 10 stamps. The stamp shows a number of fossil tree trunks in the foreground, with a reconstructed forest in the background. Thanks to Brian Pratt for alerting me about this stamp.

A more collectable "geostamp" is the new Canadian one hundred dollar bill. This was announced to the press January 28th, with first day of circulation on March 17th. The new bill incorporates the latest in anti-counterfeiting features, and joins the new \$5



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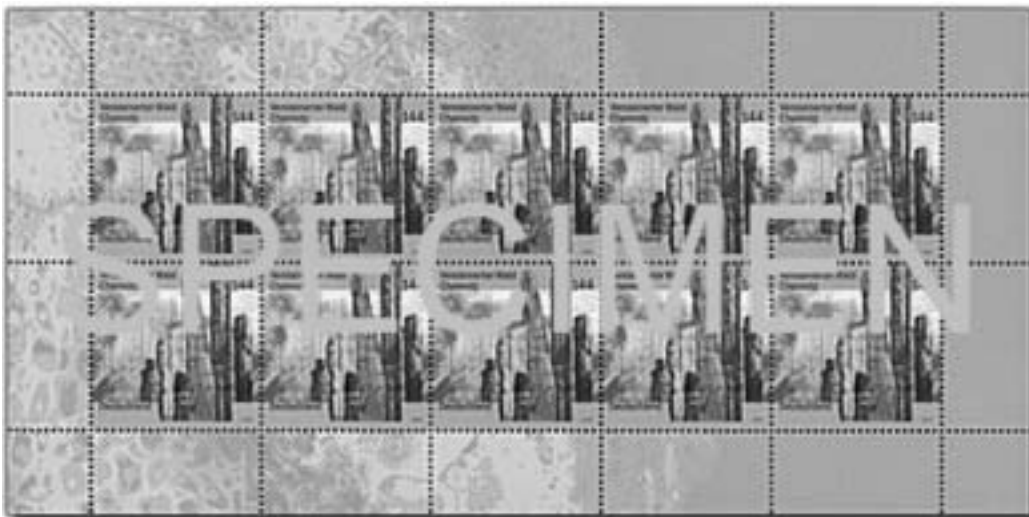
and \$10 bills already in circulation (new \$20 and \$50 are expected to be released later this year). One side of the \$100 bill features a revised image of former Prime Minister Sir Robert Borden, and the other illustrates the bill's theme of "Exploration and Innovation".

Images of Canadian achievements in cartography and communications include a map of Canada created by Samuel de Champlain in 1632, a birch bark canoe, a satellite map of Canada, and depictions of Radarsat-1 and a



Natural Resources Canada ground station antenna. Champlain's map and the canoe represent the beginnings of Canadian cartography. The other images represent today's technology. The image of the ground station was provided by the Canada Centre for Remote Sensing and the source images for Radarsat drawing were courtesy of the Canadian Space Agency. The map of Canada was created with the assistance of geographers and cartographers from NRCan's GeoAccess Division. Due to the small size of the image, some adjustment was necessary on the

map to make sure that recognizable landmarks were visible (for example, Prince Edward Island had to be shown larger than it actually should be).



The Bank of Canada website shows the bill in colour (see it at www.bankofcanada.ca/en/banknotes/general/character/2004_100_b.htm). This website adds that the note also includes an excerpt from Miriam Waddington's poem "Jacques Cartier in Toronto" which "summarizes humanity's eternal quest for discovery."

Geostamps has requested a review copy of the new bill and will report on this in the future.

Sandy McCracken

Ed Leith Cretaceous Menagerie promotes outreach

Professor Ed Leith, who passed away in 1999, is remembered particularly for his dedication to teaching and outreach, and his contagious life-long love of geology. He introduced the wonders of paleontology, Earth history, and Earth processes to countless school children. Outreach was a mission close to Ed's heart and it is a legacy that his colleagues, students, friends and family, as well as the Department of Geological Sciences and University of Manitoba, wished to perpetuate and build upon. One aspect of the geological past provides an especially suitable bridge between us and the public, and that is what we chose to develop in the now-completed Ed Leith Cretaceous Menagerie.

During the Cretaceous Period of 145 million to 65 million years ago, global climate was much warmer and sea level was far higher than in the modern world. A seaway that covered Manitoba extended across the middle of North America from the Gulf of Mexico to the Arctic Ocean; huge marine reptiles and fish swam in that water. West of the seaway, dinosaurs roamed on lowlands in places such as Alberta, while mountains were rising along the continental margin.

The Ed Leith Cretaceous Menagerie features complete skeletal replicas of four fantastic creatures from that fascinating time. They were selected for visual and emotional impact, and to depict a diversity of Cretaceous environments and animals in North America. As you enter the menagerie, you are greeted by *Gorgosaurus*. This tyrannosaurid dinosaur, representing the terrestrial environment, confronts you in a threatening way. When you look up, you can imagine the marine environment, with three monsters swimming above. They include the nasty fish *Xiphactinus* (stunning at over 5 m long), the streamlined mosasaur ("sea lizard") *Platecarpus*, and the world's biggest turtle *Archelon* (more than 5 m across). You can join these sea creatures by climbing the stairway to the balcony, where you can also get a bird's-eye view of the dinosaur.

In the menagerie, there are illustrated panels about each of the four beasts. Other panels describe the Cretaceous world and the Cretaceous rocks and fossils of Manitoba. In a



The Ed Leith Cretaceous Menagerie, in the University of Manitoba's Wallace Building, is a fitting tribute to the professor who supported outreach throughout his life.

"fossil bed" display, you can see how actual bones of marine reptiles appear as they are unearthed from layers of shale in southwestern Manitoba. There is ample space for individuals and groups to wander through the menagerie, to have a seat around the dinosaur, and to contemplate the past, present and future of our evolving Earth.

The Ed Leith Cretaceous Menagerie increases the scope and effectiveness of the Geological Sciences museum as a teaching and outreach

resource. It functions as both an educational service and a provincial-class public attraction. The menagerie and all the other exhibits in the Wallace Building are open free to everyone.

*Robert J. Elias and William C. Brisbin
Department of Geological Sciences,
University of Manitoba,
Winnipeg, Manitoba*

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The W.W. Hutchison Medal of the Geological Association of Canada

William Watt Hutchison, "Hutch" or "Bill" to his many friends and colleagues in Canada and around the world, died in the Ottawa General Hospital, July 3, 1987, at the age of 52, a victim of cancer. At the time of his death, Bill Hutchison was Assistant Deputy Minister (Earth Sciences) of Energy Mines and Resources Canada, President of the International Union of Geological Sciences, a Member, General Committee, International Council of Scientific Unions, and a Director, Circum-Pacific Council on Energy and Mineral Resources. His tragic and untimely death cut short a remarkable record of achievement in geology, in public service, and in visionary leadership of Canadian and international geoscience. However, many of the initiatives that he had launched or nurtured continued to make important contributions to the unusual growth, and development of the geological sciences, and to their integra-

tion with the geophysical sciences, in Canada and worldwide during the latter part of the twentieth century. While it is fitting that this legacy should be commemorated in the W.W. Hutchison Medal of the Geological Association of Canada, it is also unfortunate that many of the beneficiaries of that legacy are unaware of its significance, scope, and magnitude. The following brief biographic sketch aims to address this.

Bill Hutchison came to Canada in 1957 with a B.Sc. (Honours, Geology) from Aberdeen University in Scotland, to do post-graduate work at the University of Toronto (Ph.D., 1962). He joined the Geological Survey of Canada in Vancouver in 1962 and was soon engaged, with James Roddick, Alec Baer, and others, in an ambitious and technologically challenging computer-supported reconnaissance-mapping project using helicopters and boats to study one of the largest unexplored regions in Canada - the Coast Mountains of B.C. This was part of a broader research program on the origin and evolution of granites in this segment of the Circum-Pacific "ring of fire". It was also an opportunity for innovative experiments, with Jim Roddick, on the application of computer tech-



William Watt Hutchison

nology in the storage, retrieval and processing of information based on geographically referenced geological field observations, rock specimens, and fossils. Among the scientific accomplishments of the Coast Mountains project were the discovery of "tadpole" granitic plutons demonstrating the generation of granite in deep root zones leading to bodily upward movement in the dilatant "heads", and the discovery of the then youngest high temperature - high pressure metamorphic zones in the Circum-Pacific. One of the most enduring products was a set of eight 1:250,000-scale geological map sheets, co-authored by "W.W. Hutchison". These maps cover a segment of the Coast Mountains that extends southward 500 km from the Alaska "panhandle" to near the north end of Vancouver Island.

"Hutch" had a passionate and enduring commitment to fostering enhanced communication among geoscientists, between geoscientists and poli-

cy makers, and between geoscientists and the general public. In the late 1960s, he was the driving force behind the transformation of the Vancouver Geological Discussion Group into the Cordilleran Section of the GAC. This was the first of several very successful GAC Divisions that brought the synergistic impact of the GAC into local geological communities within Canada. He also started the now famous annual GAC Cordilleran Section symposia, which preceded the world-class Cordilleran Roundup, an annual mineral-exploration oriented meeting and exposition organized by the British Columbia-Yukon Chamber of Mines. In 1970 he founded the GAC's national news magazine, *GEOLOG*, and for five years single-handedly compiled, edited, and processed this amazingly successful quarterly. It has served for more than thirty years as a unifying news portal, providing a communication medium and a sounding board for geoscientists spread across the breadth and height of Canada. Bill Hutchison's leadership and communications talents soon became obvious within the GAC, and in 1973-1974, he served as the GAC's 26th President. This was a time of significant change and rejuvenation in the GAC.

Among other things, it included the introduction of *Geoscience Canada* as an innovative and refreshing replacement for the venerable Proceedings of the Geological Association of Canada. In his "Message from the President" in the first issue, he described *Geoscience Canada* as more broadly based, more topical, and responsive to issues, but stressed that "the underlying theme must be the science itself". In his GAC presidential address, "Le Défi Canadien", which surveyed the state of geology in Canada, he concluded that "a prime problem is that of communication". No one in Canadian geoscience has been more diligent and successful in addressing this problem than W. W. Hutchison.

Bill Hutchison had an extraordinary enthusiasm and capacity for leadership. In 1973, while serving as President of the GAC, he also began providing leadership to other organizations, in Canada, as a Director of the Canadian Geological Foundation and as a Member (and subsequently as Foreign Secretary) of the Canadian Geoscience Council (CGC); and internationally, as Chairman of COGEO-DATA, the Committee on Storage, Retrieval and Processing of Geological Data established by the International Union of Geological Sciences (IUGS). This latter appointment marked the beginning of more than a decade of major contributions from "Hutch" to the IUGS and to international geoscience in general.

His leadership and management abilities and his skills handling, displaying and interpreting complex geological data led to his appointment in 1974 as Head of the GSC's newly established Data Systems Research Group in Ottawa. There, under the aegis of the Director-General's office, he was given responsibility for directing long-range data systems planning and development. He directed a research group committed to implementing systems that would help scientists compile syntheses more rapidly and effectively, particularly for those projects dealing with energy and mineral resources. The challenge was to analyze critical problems, design and evaluate alternative systems, and transfer responsibility once a system was fully operational. The work involved managing up to ten task groups, whose studies crossed traditional line-management boundaries. Under his direction, the Group demonstrated the feasibility of computer-assisted cartography and designed and implemented a mineral deposit data system - CANMINDEX - that was adopted by Energy Mines and Resources Canada and some provincial agencies.

In 1978, William W. Hutchison was appointed Secretary-General of the International Union of Geological Sciences (IUGS), and, with support from the Geological Survey of

Canada, the IUGS Secretariat was transferred to the GSC headquarters in Ottawa. Bill Hutchison's new responsibilities included formulating and implementing IUGS policies on behalf of the IUGS Council and Executive Committee, as well as managing the financial resources of the IUGS and its internal scientific activities, which included six commissions, six committees, and two major collaborative programs: the International Lithosphere Program, and the International Geological Correlation Programme. He also assumed responsibility for directing IUGS initiatives to explore new avenues of pure and/or applied research which would benefit from international cooperation in the geosciences, for inspiring and motivating talented research scientists from diverse cultural backgrounds to cooperate in the planning, design and implementation of new programs, and for negotiating contracts and seeking funds for scientific and training programs through presentations of briefs to UNESCO, the UN, world banks and national research organizations. Hutch addressed all of these challenges with his characteristic enthusiasm, energy and panache.

Because recent growth in the IUGS was posing unprecedented challenges to effective communication both within the Union and between it and the international scientific community, the IUGS established a new quarterly news journal: "Episodes", with W. W. Hutchison as its founding Editor. "Episodes" replaced the IUGS "Geological Newsletter" as the prime vehicle for disseminating to the IUGS community news of activities undertaken by the Union and its affiliates. Under Bill Hutchison's leadership, it also aspired to a more "expanded role in conveying

"The W. W. Hutchison Medal of the Geological Association of Canada is awarded to a geoscientist who during the first decade or so of her/his career is judged to have made an outstanding accomplishment in research, development, or applications in their field. The recipient will undertake a lecture tour in Canada, visiting major centres, at the expense of the GAC. The medal is named after Dr. William W. Hutchison in recognition of his many contributions to the Geological Association of Canada and to Canadian and international geoscience."

(GAC Council, May 2003)

up-to-date information on scientific concepts and developments" in a form that "could better serve the Union both as a communications and a public relations tool." Within a few years "Hutch", with the skillful assistance of his experienced and talented Managing Editor, Vera Lafferty, had transformed Episodes into an international geoscience news magazine linking all the member countries of the IUGS, and moreover, one that was particularly effective in "conveying up-to-date information on scientific concepts and developments" and news of IUGS activities to geoscientists in developing countries.

In 1980, Bill Hutchison received the Bancroft Award from the Royal Society of Canada for his leadership in fostering cooperation and communication in the geosciences in Canada and internationally. The citation with his award stated that: "Much of the credit for the sense of community that has grown up in Canadian geoscience over the past decade is due to the work and influence of W.W. Hutchison. In more recent years, some of his energies have been successfully shifted to

the international sphere, where again he is building up a sense of rapport and cooperation."

1981 was a very eventful year for Bill Hutchison. In January, he became Director-General of the Geological Survey of Canada, and in August, as part of a reorganization within Energy, Mines, and Resources Canada, he was appointed Assistant Deputy Minister and given responsibility for the management of the Earth Sciences Sector of Department. The Earth Sciences Sector consisted of the Surveys and Mapping Branch, the Geological Survey of Canada, the Earth Physics Branch, and the Polar Continental Shelf Project, and a small headquarters unit. He was responsible for ~2000 employees, some located in Ottawa, others at regional centres dispersed across the nation, from the Atlantic to the Pacific to the polar continental shelf in the Arctic. The role of the Earth Sciences Sector was to contribute to the formulation of overall policies and regulations of the Department and the government in general, and to act as an agent of implementation of specific policy objectives. "Hutch" promptly launched reviews of existing Earth Sciences Sector activities and initiated a new strategic planning process. At his initiative, an Independent Industrial Advisory Committee on Earth Sciences was established to advise the Minister of Energy Mines and Resources on the activities of this Sector. The committee consisted of senior officers from petroleum, mining, and surveying companies, most of whom were qualified professional geoscientists or engineers with present or past links to Canadian geoscience or survey-engineering professional organizations. The Advisory Committee met at regular intervals to review the strategic plans and program activities of the Earth Science Sector and to report to the Minister of State for Mines (and the Associate Deputy Minister and Deputy Minister of Energy Mines and Resources). Members of the Committee soon became quite familiar with

the responsibilities and activities of the various components of the Earth Science Sector, and with the special challenges and opportunities that each component was facing.

The Independent Industrial Advisory Committee became a very important channel for communication between the Earth Sciences Sector and the Government of Canada as well as between industry and Energy, Mines and Resources Canada. It was particularly important during the period of major change that followed the electoral victory of the Progressive Conservative Party under the leadership of Brian Mulroney, because during that critical period, some members of the Advisory Committee communicated directly with Pat Carney, the new Minister of Energy, Mines and Resources Canada. The Advisory Committee was instrumental in the implementation of a number of initiatives that have had a major influence on the Earth Science Sector and on the growth and development of the earth sciences in Canada. These include: Lithoprobe, Canadian membership in the Ocean Drilling Program (ODP), the continuation of the Polar Continental Shelf Project through the 1980s and 1990s, and also the GSC's Frontier Geoscience Program, and its geoscience program to inform Canadian negotiations in bilateral offshore boundary disputes, both of which involved participation of scientists and engineers from academia and industry as well as federal government personnel. Without the Independent Industrial Advisory Committee the evolution of the Canadian earth sciences during the latter part of the twentieth century would have been quite different.

In the 1980s many provincial and territorial geological survey organizations that were faced with severe financial cut-backs, or, in some cases extinction, were rejuvenated or saved by federal-provincial Mineral Development Agreements (MDA's). The MDA's included the establishment of new feder-

W.W. Hutchison Medal

The terms of reference for the Medal adopted by the GAC Council in May 2003 are:

1. The W.W. Hutchison Medal of the Geological Association of Canada is awarded to a young individual for recent exceptional advances in Canadian earth science research. The medal is named after Dr. William W. Hutchison in recognition of his many contributions to the Geological Association of Canada and to Canadian and international geoscience.
2. A subcommittee shall be responsible for selecting a candidate from sponsored nominations and recommending same to Council for its approval. The Past-President shall be ex-officio chair and shall appoint a committee of three others, none of whom shall be a nominator or nominee for the medal.
3. Nominations of individuals for the W.W. Hutchison Medal are invited from membership of the Association. Nominations should be signed by at least three sponsors and submitted to the GAC Past President. Individual nominations are valid for a period of three years. The nomination papers must include a completed nomination form (available on the GAC website or in hard copy from GAC headquarters), cover letter of up to 2 pages from the principal sponsor, a one-sentence citation, a 200-word citation, a curriculum vitae, and one-page letters of endorsement from the co-sponsors. Letters of endorsement will also be considered by the selection subcommittee.

al-provincial cooperative programs for the creation and dissemination of new geoscience information to stimulate mineral resource exploration and discovery. They provided opportunities to deploy existing geoscience expertise in under-funded provincial and territorial geoscience agencies. Bill Hutchison was convinced that Canada needed strong provincial and territorial geoscience agencies, and also close cooperation and integration between them and the federal Earth Science Sector. He worked diligently and effectively on the development and implementation of the MDA's. Some of the credit for the success of the MDA's, and for their impact on provincial and territorial geoscience agencies belongs to him.

"Hutch" had relinquished his responsibilities as Secretary-General of the IUGS in 1980, before he was appointed Director-General of the Geological Survey of Canada; however, he continued to be active in the IUGS and in other international scientific activities. In 1980, he became Chairman of the Board of Directors of the IUGS International Research Development Programme. This Programme, which he had established while IUGS Secretary-General, was responsible for developing new initiatives in international collaboration in geological research, and also new sources of financial support. In 1982 he was appointed by the International Council of Scientific Unions (ICSU) to serve as President of CODATA, the ICSU Committee on Data for Science and Technology. Also in 1982, he became a Director of the Circum-Pacific Council on Energy and Mineral Resources. He was soon widely recognized for his contributions to the International Union of Geological Sciences, the International Council of Scientific Unions, and the Circum-Pacific Council on Energy and Mineral Resources, and for his achievements as Assistant Deputy Minister of the Energy Mines and Resources Canada.

There was no surprise when, at the International Geological Congress in Moscow in 1984, W.W. Hutchison was unanimously elected President of the International Union of Geological Sciences (IUGS), or when he was subsequently made a Member of the General Committee of the International Council of Scientific Unions (ICSU). In these new roles Bill Hutchison managed to integrate advantageously his international scientific activities with his management responsibilities in the Government of Canada. He fostered Canadian participation in new international activities such as the development of Issue's International Geosphere-Biosphere Program on Global Change, global assessments of oil and gas resources, and the emerging interest in earth system science. It is truly unfortunate that his growing record of outstanding contributions to the earth sciences in Canada and internationally was cut short by his untimely death in 1987.

"Hutch" was particularly interested in promoting the professional growth of deserving, meritorious young scientists. One of his last wishes was to establish under IUGS auspices the Hutchison "Young Scientist" Foundation to support their participation at the quadrennial meetings of the International Geological Congress. The GAC's W.W. Hutchison Medal will recognize the achievements of outstanding young Canadian geoscientists and provide them with opportunities to present and discuss their research at major centres within Canada.

Supporting the Hutchison Medal

Your financial support will help make this happen. The Canadian Geological Foundation, which is a registered Canadian charitable organization, will administer the endowment fund required to cover the costs of the medals and the lecture tours*; it will provide donors with official receipts for income tax purposes. Cheques payable to the "*Canadian Geological Foundation re: Hutchison Medal Fund*" should be sent to:

Geological Association of Canada
c/o Department of Earth Sciences
Room ER4063, Alexander Murray Building
Memorial University of Newfoundland
St. John's, NL A1B 3X5 CANADA

Or, you can donate online by logging onto www.gac.ca, and clicking on 'Donate'.

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With Thanks:

Dr. Vera Lafferty has provided many of the documents upon which this article is based; she has also provided editorial advice. Dirk Tempelman-Kluit and James Roddick have supplied information and advice about Bill Hutchison's sojourn in British Columbia. Chris Findlay has given information and advice about Bill's contributions while in Ottawa. I am grateful for all of this assistance.

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GEOLOG

Obituary: Victor K. Prest (1913-2003)

With the death of Dr. Victor K. Prest on September 26, 2003, Canada lost one of its most distinguished geologists and arguably its best-known and most influential Quaternary geologist. Vic was active as a leader of Canadian Quaternary science for a remarkably long time and he positively influenced the careers of almost everyone else in the field in this country as well as his many friends abroad. He came to personify the Quaternary geology of Canada both domestically and internationally. This identity arose from his unstinting, deep interest in the subject, his long view of the evolution of ideas, his intimate knowledge of the ever-growing knowledge base, and especially the very genuine interest he took in the work of all others. Tentative, junior researchers and graduate students always met with as much respect and encouragement as did his senior colleagues and Vic often took the time to send notes of encouragement and compliment.

Most of you will know of Vic because of the *Glacial Map of Canada* (Prest et al., 1968) - a work of such veracity that it has yet to be superseded for the country as a whole. This map followed an earlier version initiated by J. Tuzo Wilson, to which Vic contributed as co-compiler (Wilson et al., 1959). The 1968 *Glacial Map* was followed by the beautiful blue-shaded 'pancake map' depicting the Retreat of Wisconsin and Recent Ice in North America (Prest, 1969), and his masterful Quaternary Geology chapter in the *Geology of Canada* volume (Prest, 1970). That trilogy was the masterpiece of a generation, which adorned many an academic hallway and classroom. Its impact places it among the most outstanding contributions of the Geological Survey of Canada (GSC) and fixes it as its premier Quaternary contribution. It was the most cogent, persuasive, and attractively illustrated synthesis available and it has served as the baseline for almost everything else that has followed.

As a great builder of Quaternary science in Canada, Vic had wide knowledge of geological and other sciences. He obtained an Honours B.Sc. in geology and botany (1935) and a M.Sc. degree in geology (1936) at the University of Manitoba. He assisted field parties of the Manitoba Mines Branch and the GSC, then led bedrock mapping parties (1937-40) in northern Ontario for the Ontario Department of Mines (ODM; see Prest (1939) for his first publication), assisted at the Royal Ontario Museum (1936-38) and lectured at the University of Toronto (1939-40), before receiving a Ph.D. in geology from Toronto (see Prest, 1941). The newly minted Dr. Prest joined the International Nickel Company as a geologist for a year (1941-42) and followed this with wartime service as a lieutenant in the Royal Canadian Navy (he had previously been in the R.C.N. Volunteer Reserve.). It was in 1942 that he married Pat and gained lifelong support in his activities. He resumed mapping the Precambrian geology of northern Ontario for ODM (1945-50) where he authored more than 30 maps and annual reports. He was one of the first to combine Quaternary and bedrock mapping with the release of his map of Red Lake-Lansdowne House. His first Quaternary publication was the Pleistocene geology of the Vermillion River system with special reference to placer gold (Prest, 1949).

After 15 years as a bedrock geologist, half a normal career,

Vic came to the Geological Survey of Canada in 1950 to head the "Post-Precambrian" unit of groundwater and engineering geologists, and most significantly a nascent group of Pleistocene geologists. He nurtured this group into what later became Terrain Sciences Division, the largest and scientifically broadest group of Quaternary specialists in the country and one of the largest in the world. That group had been melded earlier by convincing hardrock geologists to undertake Survey-supported Ph.D. theses in Pleistocene geology. Vic's early Pleistocene colleagues at GSC included Jack Armstrong, Wes Blake, Jr., Bruce Craig, Bob Fulton, John Fyles, Nelson Gadd, Eric Henderson, Owen Hughes, Bert Lee, and Archie Stalker, all of whom were to become major regional authorities, and Jaan Terasmae and Bob Mott, leaders in the development of Quaternary paleoecology in Canada. Addition of his academic and provincial geological survey friends, Bill Mathews (University of British Columbia), Earl Christiansen (Saskatchewan), Alexis Dreimanis (University of Western Ontario), Con Gravenor (University of Windsor), Paul Karrow (University of Waterloo), Pierre LaSalle (Quebec), and John Elson (McGill University) largely completes the Prest cohort of Canadian Quaternary geologists.

Although Vic left management for full-time research in 1964, to many, even those who joined the Survey later (and to many outside), the Quaternary group at the Survey remained more identified with him than with anyone else. His continuing interaction with us was a most significant source of motivation; he became a sort of mentor-at-large, leading by example with great moral authority. He brought prestige and engendered pride. By building Quaternary science at the Survey and by mentoring and informally supervising graduate students, Vic profoundly contributed to the Canadian Quaternary community.

Vic was an enthusiastic participant in numerous field excursions in southern Canada, the northern USA, Alaska, and internationally. His GSC fieldwork took him on a High Arctic voyage that reached Ellesmere Island (Prest, 1958), mapping projects in Ontario (Prest, 1963), Quebec (Prest, 1966; Prest and Hode-Keyser, 1977) and the Maritimes. He had a special passion for the Maritimes, where his map of Prince Edward Island (Prest, 1973) remains seminal, and where, with his protégé Douglas Grant, he formulated the concept of an Appalachian Ice Complex (Prest and Grant, 1969; Prest et al., 1972; Prest, 1977) to encapsulate the style of regional glaciation, as distinct from Laurentide glaciation. This model is still favoured by regional geologists. The Magdalen Islands in the Gulf of St. Lawrence long held his interest, because of the perplexing lack of direct evidence of Late Wisconsinan glaciation and its record of older events (Prest et al., 1976). This evidence led him to portray on his ice recession map what Doug Grant termed "Prest's Problematical Pleistocene Prong," a reference to the glaciological improbability of leaving the Magdalen Islands ice free while allowing ice to extend to the edge of the Continental Shelf. The portrayal revealed Vic's preference for field evidence over theory.

Vic formally retired from GSC in 1978, and formed Veekay Consultants (1978-94) to receive Ontario Geological Survey

(OGS) surficial mapping contracts in northwestern Ontario and a Department of Indian Affairs and Northern Development contract to work in the Bebensee Lake area (Prest, 1985). He continued fieldwork into his seventies, including long traverses into dense bush around the famous Red Lake gold mining camp. This work yielded a series of detailed maps (e.g., Prest, 1980) that formed the basis for recent drift prospecting programs. But "outreach" and major syntheses continued too, including Canada's Heritage of Glacial Features (Prest, 1983), The Late Wisconsinan Glacier Complex paper and map (Prest, 1984), a synthesis of glacial lake history in the Lake Ontario basin with Ernie Muller (Muller and Prest, 1985), and maps of North American paleogeography (Dyke and Prest, 1987). His two final publications dealt with the history of interpretation of the Laurentide Ice Sheet (Prest, 1990) and a more specific passion, the long-distance dispersal of the distinctive erratics that he termed "omars" from the central part of the ice sheet (Prest et al., 2000). He maintained his office at GSC until 2002.

Vic is not one who becomes greater in death than he was in life. He was always admired and respected by his colleagues. His accomplishments received due recognition in the form of the Johnston Medal from the Canadian Quaternary Association (the first awarded), the Gold Medal from the Royal Canadian Geographical Society, the Kirk Bryan and the Distinguished Career Awards from the Quaternary Geology and Geomorphology Division of the Geological Society of America, election as a Fellow to join the distinguished scientists of the Royal Society of Canada, and election as Honorary Member of the International Union for Quaternary Research. At age 90, he was our long-reigning Grand Old Man.

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GAC Annual Business Meeting

On March 12, 2004, all Fellows of the Geological Association of Canada were forwarded information related to the coming Annual Business Meeting. Those Fellows who had provided email addresses were sent the materials via email; those Fellows for whom GAC Headquarters did not have an email address were sent paper copies through regular mail service. If you are a Fellow of the GAC, and you have not received your Annual Business Meeting information, please contact GAC Headquarters at 709 737-7660, gac@esd.mun.ca or fax at 709 737-2532.

Harvey Thorleifson, President of GAC, has issued the following information:

“By-Laws of the Association require that from time to time, any changes to the Rules and Regulations be approved by Council and subsequently ratified by the membership at the Annual Meeting. In addition, for By-Law changes, the Minister of Consumer and Corporate Affairs must approve actions voted on and approved by the Council and Fellows. Council recommends that both Fellows and Associates be known as Members; that all Members vote; that membership

qualifications be broadened to those holding a post-secondary qualification in an earth science-related discipline and/or equivalent professional experience; that existing Associates become Members; that Student Members be non-voting members who are enrolled in a post-secondary program in an earth science-related field; that GAC Fellow be an honour to which members may be nominated in a manner similar to current procedures, and that existing Fellows retain their designation so long as they are Members in good standing.”

Fellows attending the Annual Business Meeting in St. Catharines can vote to accept or reject these changes.

Fellows in attendance will also elect Officers and Councillors to represent the members of GAC.

Fellows unable - or unlikely - to attend the meeting may submit to the Headquarters of the Association a Proxy Ballot. Proxy Ballots were supplied to all Fellows in the Annual Business Meeting package via email and by mail.

Fellows with questions are encouraged to contact GAC Headquarters.



The Nominating Committee has prepared the following slate which shall comprise the Regular Ticket of candidates for the offices and places on Council to be filled at the Annual Business meeting on Wednesday, May 12, 2004 in St. Catharines, Ontario.

Le Comité de nomination a préparé la liste électorale régulière des candidats pour des postes sur le comité exécutif et sur le conseil, pour l'approbation des membres à l'assemblée annuelle à mercredi le 12 mai, 2004 à St. Catharines, Ontario.

PROPOSED OFFICERS 2004-2005 DIRIGEANTS PROPOSÉS

President	Sandra Barr	Wolfville
Vice-President	David Piper	Dartmouth
Secretary-Treasurer	Vacant	

PROPOSED COUNCIL 2004-2005 CONSEIL PROPOSÉ

<u>TERM</u>		
2002-2005	Kevin Ansdell Robert Marquis Jeremy Richards Harvey Thorleifson Graham Young	Saskatoon Val D'Or Edmonton St. Paul, MN Winnipeg
2004-2005	Richard Wardle	St. John's
2003-2006	Sandra Barr Jennifer Bates Mark Fenton Brent Murphy Peter Mustard	Wolfville Dartmouth Edmonton Yellowknife Burnaby
2004-2007	Carolyn Anglin Simon Hammer David Piper James Ryan John Waldron Reg Wilson	Vancouver Ottawa Dartmouth Vancouver Edmonton Bathurst



NOTICE OF ANNUAL BUSINESS MEETING

The Annual Business meeting of the Geological Association of Canada will be held from 17:00 - 18:00 hours on Wednesday, May 12, 2004 in Room AS 201 (Academic South), Brock University, St. Catharines, Ontario.

Fellows who are unable, or doubtful, to attend, are requested to *complete and return the Proxy form* located at <http://gac4.esd.mun.ca/directory/index.php>

ORDER OF BUSINESS

1. Call to order by the presiding officer
2. Summary by the President of the activities of the Association
3. Summary by the Secretary-Treasurer of the financial state of the Association and changes in the membership in 2003
4. Election of Councillors and Officers
5. Appointment of Auditors
6. Any Other Business

L'ANNONCE DE L'ASSEMBLÉE ANNUELLE

La réunion annuelle d'affaires de l'Association Géologique du Canada aura lieu le mercredi 12 mai, 2004, de 17h00 à 18h00, dans la salle AS 201 (Édifice Academic South) de l'Université Brock, St. Catharines, Ontario.

Tous les Fellows qui ne peuvent pas ou qui ne sont pas sûrs d'y assister, sont priés de *compléter et retourner le formulaire*: <http://gac4.esd.mun.ca/directory/index.php>

LES PROCÉDURES DE L'ASSEMBLÉE ANNUELLE

1. Rappel à l'ordre par l'officier président
2. Sommaire par le Président des activités de l'Association
3. Sommaire par le Secrétaire-Trésorier de l'état financier de l'Association et des changements concernant le nombre et l'identité des membres en 2003
4. Élection des conseillers et des officiers
5. Nomination d'un vérificateur
6. Affaires nouvelles

Calendar

2004

* = new entry

* April 1 - 2

GSA North-Central Section Meeting, St. Louis, MO

Web: www.geosociety.org/sectdiv/Northc/04ncmtg.htm

April 4 - 7

10th International Symposium on Experimental Mineralogy, Petrology and Geochemistry (EMPG X), Frankfurt, Germany

Web: www.empgx.uni-frankfurt.de

April 25 - 30

European Geosciences Union, 1st General Assembly, Nice, France

Web: www.copernicus.org/EGU/ga/egu/04

* May 3 - 5

GSA Joint Rocky Mountain - Cordilleran Section Meeting, Boise, ID

Web: www.geosociety.org/sectdiv/rocky_mtn/04rmcdmtg.htm

May 9 - 12

Canadian Institute of Mining and Metallurgy Annual General Meeting, Edmonton, AB

Web: www.cim.org

May 10 - 11

MAC short course, Infrared spectroscopy in geochemistry, exploration geochemistry, and remote sensing, London, ON

Web: www.mineralogicalassociation.ca

May 12 - 14

GAC/MAC 2004, St.

Catharines, ON

Web:

www.stcatharines2004.ca

E-mail:

GACMAC04@brocku.ca

May 10 - 14

Rare earth elements and geochemistry GAC short course and special session, St. Catherines, ON

Web:

www.science.uwaterloo.ca/earth/faculty/linnen/rare%20element%20brochure.pdf

May 12 - 14

Interpreting the structures in partially melted, deep continental crust, GAC special session, St. Catherines, ON

E-mail:

ewsawyer@uqac.quebec.ca

May 2004

Joint Rocky Mountain - Cordilleran Section meeting of GSA, Boise, ID

E-mail: vgillerm@boisestate.edu

Web: <http://earth.boisestate.edu/gsa2004/>

May 17 - 19

GIS and Water Resources III, Nashville, TN

Web: <http://www.awra.org/meetings/Nashville2004/index.html>

May 17 - 21

2004 AGU-CGU Joint Assembly, Montreal, PQ

Web: www.agu.org/meetings/

May 31 - June 4

Canadian Meteorological and Oceanographic Society Annual Congress, Edmonton, AB

Web: www.cmos.ca

* June 5 - 7

Canadian Science Writer's Association Annual Conference on water science,

Toronto, ON

Web: www.sciencewriters.ca/conference/index.html

June 16 - 18

Canadian Water Resources Association Annual Conference, Montreal, PQ

Web: www.cwra.org

June 16 - 19

International Conference on Groundwater Vulnerability Assessment and Mapping, Sosnowiec, Poland

E-mail: switkows@us.edu.pl

Web: <http://khgi.wnoz.us.edu.pl/vulnerability.htm>

June 23 - 25

Riverflow 2004-Second International Conference on Fluvial Hydraulics, Naples, Italy

Web: www.riverflow2004.unina.it

June 25 - 30

From Forelands to Core Zones:

Deformation and Tectonic Evolution of Orogenic Belts, in honour of Dr. Philip Simony, Calgary, AB

E-mail: lfreid@ucalgary.ca

June 2004

Dimension Stone 2004 conference, Prague, Czech Republic

E-mail: prikryl@natur.cuni.cz or rich-prikryl@hotmail.com

July 12 - 16

BHS International Conference,

Hydrology: Science and Practise for the 21st Century, Imperial College, London, UK

E-mail: a.butler@ic.ac.uk

Website:

www.hydrology.org.uk/index.html

July 13 - 16

Confronting Water Scarcity: Challenges and Choices/CWRA Alberta Branch Conference, Lethbridge, AB

Web: www.confronting-water-scarcity.ca or www.cwra.org

July 26 - 30

International Glaciological Society, International Symposium on Ice-Water-Ice: Processes across the Phase Boundary,

Portland, OR

Include your special event in Geolog's Calendar

E-mail:

publications@esd.mun.ca

Web: www.igsoc.org/symposia/2004/portland/portland1.html

August 16 - 20

2004 Western Pacific Geophysics Meeting, Honolulu, HI

Web: www.agu.org/meetings

August 23-27

International Glaciological Society, International Symposium on Arctic Glaciology, Geilo, Norway

Web: www.igsoc.org/symposia/2004/geilo/geilo1.html

August 20 - 28

International Union of Geological Sciences 32nd International Geological Congress, Florence, Italy.

Tel: 39 055 238 2146; E-mail:

casaitalia@geo.unifi.it

Web: www.32igc.org

September 11 - 14

2004 Interim IAGOD Conference on Metallogeny of the Pacific Northwest, Vladivostok, Russia

Web: www.fegi.ru/IAGOD

September 23 - 27

14th Canadian Paleontology Conference, Huntsman Marine Science Centre, NB

E-mail: jcaron@rom.on.ca

September 27 - October 1

SEG 2004 Conference, Perth, Australia

E-mail: susanho@geol.uwa.edu.au

Web: www.cgm.uwa.edu.au/geoconferences/seg2004/

* October 10 - 13

AAPG/GSA Regional Geology and Hydrocarbon Systems of European & Russian Basins, Prague, CZ

Web: www.aapg.org/meetings/prague04/

October 11 - 15

XXXIII Congress of IAH-Conference on Groundwater Flow Understanding:

From Local to Regional Scale.

Joint Conference IAH/ALHSUD, Mexico

E-mail: aih@igris.igeograf.unam.mx

Web: www.igeograf.unam.mx/aih

* November 7 - 10

Geological Society of American Annual Meeting, Denver, CO

Web: www.geosociety.org/meetings/2004/

November 14 - 19

IAVCEI 2004 General Assembly, Pucón, Chile

Web: www.sernageomin.cl/iavcei

December 13 - 17

AGU 2004 Fall Meeting, San Francisco, CA

Web: www.agu.org/meetings

2005

June 12 - 17

Acid Rain 2005: 7th International Conference on Acid Deposition, Prague, Czech Republic

Web: www.acidrain2005.cz

* August 8 - 11

GSA/GAC Earth System Processes 2, Calgary, AB

Web: www.geosociety.org/esp2/

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In order/proceeding on sciences de la terre

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Scientific themes: (1) The Early Earth - Establishing the Cratons; (2) The Middle Earth - Stitching the Cratons and Other Events; (3) The Late Earth - Young Orogenic Belts; (4) Processes in the Earth - How the Planet Works; (5) The Resurgent Earth - Sustaining & Endangering Life on the Planet

Format: 90-minute invited oral presentations from key LITHOPROBE contributors and international keynote speakers for each theme; contributed poster presentations from LITHOPROBE scientists and other participants

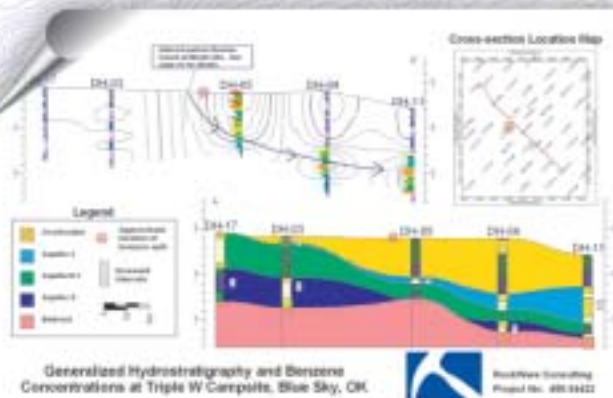
Further information: On the web: www.lithoprobe.ca;
e-mail: lit@lithoprobe.ubc.ca; or contact Ron Clowes, Director,
LITHOPROBE at 604-822-4138.

The conference is supported by funding to LITHOPROBE from the Natural Sciences and Engineering Research Council of Canada

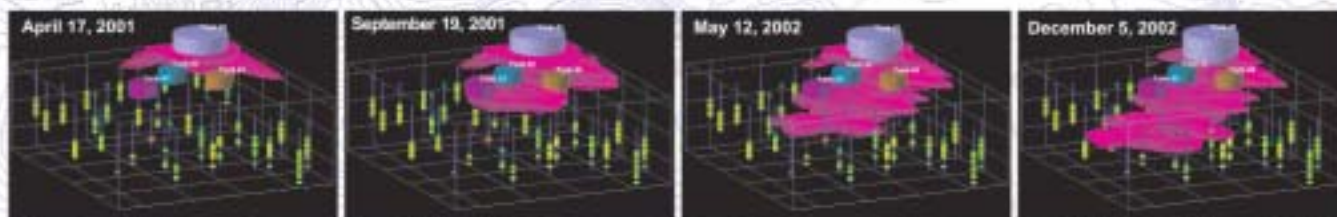
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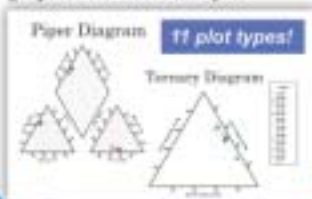
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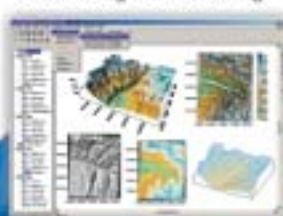
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