ATLANTIC GEOSCIENCE SOCIETY

NEWSLETTER

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The Blue Beach/Horton Bluff locality (Early Carboniferous Horton Group), near Hantsport, Nova Scotia, as it looked on the morning of a lovely early October day in the late 1970s. Photograph by Rob Fensome on his first visit to Nova Scotia, taken during a conference field trip.

The deadline for submissions to the next issue is December 22, 2006. Please send articles or feedback to:

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Production of this newsletter is by Nelly Koziel.

PRESIDENT'S FORUM

Greetings from the beautiful Annapolis Valley! It seems all of Atlantic Canada has been enjoying a wonderful Fall with plenty of warm, sunny days and ample opportunities for field trips.

The 2007 AGS Annual Meting and Colloquium in Moncton is fast approaching. I would urge all members to begin thinking in earnest about special sessions and workshops that might be appropriate for the conference. If you have any ideas please get in touch with Reg Wilson (reg.wilson@gnb.ca) or Mike Parkhill (michael.parkhill@gnb.ca) as soon as possible.

One item I think that should be of interest to all members is exploring methods of attracting new participants to AGS Colloquiums. It is my opinion that the Colloquium would benefit greatly from an increased presence of industry. Given the very strong undergraduate and graduate student presence at past conferences, and the current strength of the resource sector, it would seem to me that the Colloquium also represents an opportunity for employers to meet prospective employees! In the past we have discussed a variety of initiatives including an industry-funded student breakfast/meet and greet, and an evening job fair.

If you have any ideas or comments please do not hesitate to get in touch with me!

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AGS ACTIVITIES

AGS 33rd Colloquium and Annual General Meeting

CALL FOR PROGRAM THEMES

The 33rd annual AGS Colloquium and Annual General Meeting will be held at the Delta Beauséjour Hotel in Moncton, New Brunswick on February 2-3, 2007. In addition to the usual general session on current research in the Atlantic provinces (or elsewhere!), we normally feature a Friday afternoon workshop and one or more special sessions during Saturday.

Anyone with ideas or proposals for special sessions or workshops and a willingness to assemble a roster of presenters, should contact Reg Wilson (Reg.Wilson@gnb.ca) or Mike Parkhill (Michael.Parkhill@gnb.ca) as soon as possible.

A formal call for abstracts, and more information on registration, fees, etc., will follow at a later date. We hope to see you all in Moncton!

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AGS-APICS SPEAKER TOUR

The society in conjunction with the Atlantic Provinces Council on the Sciences, is supporting Dr. Phil McCausland, Postdoctoral Fellow, Department of Earth Sciences, University of Western Ontario on a lecture tour of the Atlantic region for 2006-07. He is preparing to give talks on two subjects: "Where was the

Iapetus Ocean born? Tectonics and paleogeography of the Precambrian-Cambrian transition in Laurentia and beyond" and "Coherent regional rotations in modern and ancient orogens: Recognition of rigid crustal behaviour during orogenesis". This year (2006) he will be at Dalhousie University on October 26th, Saint Francis Xavier on October 30th and Acadia on October 31st. He'll be returning to the Maritimes in February 2007 when he hopes to give talks at Saint Mary's and Memorial universities. If you are near any of these venues, plan to attend his talks. Phil is a member of the AGS and comes highly recommended.

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AGS AND THE PHOTOGRAPHIC GUILD OF NOVA SCOTIA

AGS has loosely sponsored a field trip for the Photographic Guild of Nova Scotia for the past six years, with a clear trend of increasing interest from Guild members. The idea is less to provide an opportunity for the photographers to shoot images (its hard to arrange for good lighting for a trip scheduled well in advance) than to show off places that we geologists find interesting and photogenic. It is also a great opportunity to explain some geology so that Guild members are more sensitive to shooting images that are scientifically meaningful ... and potentially that we can use in outreach projects. But many Guild members come just for a fun excursion, and that's fine too.

Windsor Gypsum at Cheverie Causeway, interbedded with organic-rich brown carbonate beds (seen in the foreground). The white gypsum makes an interesting visual contrast with blue sky, green vegetation and orange-brown sand (photo: Bill MacMillan).

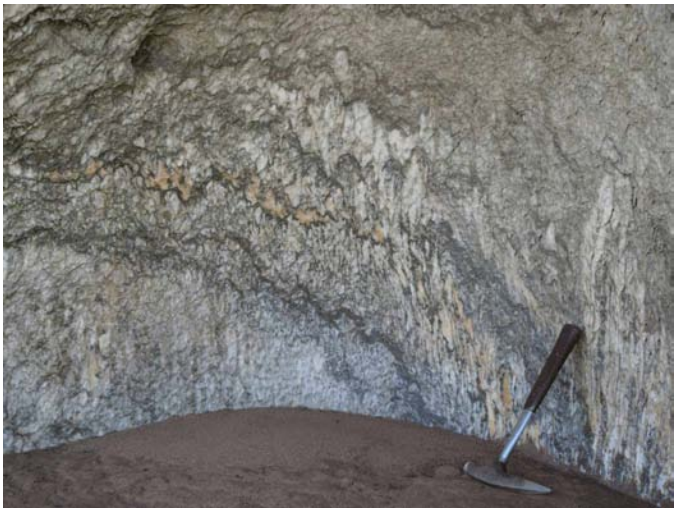
In 2005 the trip was to Blue Beach, near Hantsport, on the first Saturday in September. It was a beautiful sunny day, but due to scheduling around the tides, the lighting was not ideal. The leaders were myself, Deborah Skilliter of the Nova Scotia Museum, and Chris Mansky of the Blue Beach Museum. Another couple of geologists, Bill MacMillan (GSC Atlantic) and Tracy Webb (Horton High School) also showed up to help explain the geology. Chris, who runs the Museum with partner Sonja Wood, is the local expert and was most generous in sharing his time and expertise with the group. Chris explained aspects of the local botany, archaeology, and geology to participants.

The spectacular unconformity at Rainy Cove separating almost vertical Horton Group rocks below and Wolfville Formation above. This exposure is reminiscent of the famous unconformity at Siccar Point south of Edinburgh, Scotland, which inspired James Hutton in the late 18th Century to discover "deep time" (a story well told in Jack Repchek's book The Man Who Found Time) (photo: Rob Fensome).

Thanks in no small part to the efforts of Chris, the rocks at Blue Beach are becoming increasingly renowned for the trove of fossil riches that the Fundy tides are revealing. These riches include fossil fishes and remains of some of the oldest known trees, and trackways of some of the earliest tetrapods. Several of these fossil types were found as we photographed along the beach as the tide regressed. Other features of photographic interest include ripple marks, raindrop imprints, mudcracks, gently folded strata, and nice arrays of colours provided by the different rock types, beach materials, green algae and a white sandstone sea stack.

For the 2006 trip, Deborah Skilliter and I had planned to take the photographers to Tancook Island; and John Waldron kindly consented to take Deborah and I there on an exploratory mission in August. However, for reasons of limited Saturday ferry service and rugged terrane, we realized that we needed greater planning time for such a trip ... so "plan B" involved a trip to the Noel Shore on 30th September, with geologists Hans Wielens and Neil Downey accompanying myself and 28 photographers (and almost as many cars!).

This was a good choice since Hans and I had recently participated in the 2006 EdGEO field trip to the same area. So we pulled the EdGEO trip "off the shelf" and took the photographers to Newport Landing (thanks to Peter Wallace for educating us about that spot), Rainy Cove, and Cheverie.



Patterns and textures in the Windsor gypsum outcrops at Newport Landing make great potential subject matter for photographers (photo: Hans Wielens).

At Rainy Cove we met a group of Dalhousie students led by illustrious AGS members Grant Wach, Martin Gibling and Liz Kosters. Not often does Rainy Cove hold 60 people at one time; it was more like Victoria Station at rush hour than a Maritimes backwater.

It was a beautiful sunny September day and the experience was widely appreciated, judging from the favourable comments. I think some of the photographers remain a little bemused about all this rock stuff, but others (especially the repeaters) are clearly beginning to have an appreciation that Nova Scotia does have a fascinating ancient history.

If any AGS members would like to one would like to be involved in this initiative, please let me know.

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FIELD NOTES

Notes from the editor based on field observations by David Lentz....

Canadian scientific research rankings
How does Canadian scientific research rate in comparison with that being conducted in other countries? Should you be interested in such a question, Thomson Scientific has an answer. The well-known publishing company maintains a citation database built by scanning approximately 9000 international scientific journals. In its latest ranking, the company tallied 178212 articles with at least one Canadian author that were published between 2001 and 2005. The articles are categorized into 21 scientific fields, and the fields are ranked according to the percentage of papers in each field relative to the total for all countries. Canadian scientists authored or co-authored 4.55% of all the papers in the database, and those papers received a higher citation rate than the global average in 18 of the 21 fields (the global average is 3.67 citations per paper).

So how did Canadian geosciences do? Very well indeed. At 7.36%, it turns out that Canadian geologists churn out a lot of print) second only to our colleagues in psychology/psychiatry (7.40%). The relative impact of Canadian geoscience articles, as measured by citations per paper, is deemed to be 10% above the global average. So surely we are all entitled to a collective pat on the back for a job well done. On the other hand, the results are surprising in the context of the negativity about science funding and management that seems rampant these days throughout the Canadian academic, industrial, and governmental geoscience communities. Maybe there is a more complex story hidden in the numbers. Or maybe we should all be consulting with the psychologists! The Thomson Scientific rankings of Canadian science can be found on the Internet at: in-cites.com/research/2006/april_3_2006-2.html

Gesner's Dream: The Trials and Triumphs of Early Mining in New Brunswick, by Gwen Martin
Dr. Abraham Gesner (1797-1864) achieved so much in his Victorian-era lifetime that he could credibly refer to himself as a physician, a surgeon, a geologist, and an inventor. In his spare time he gave public lectures, helped his wife Harriet raise their seven sons and three daughters, and pursued his musical passions by playing the flute and the violin. Tell that to your students or your favourite teenager the next time that they complain of being too busy, and you can have fun watching them roll their eyes. At any rate, Dr. Gesner is often lauded as the inventor of kerosene and the father of the modern petroleum industry. Not so well known is his role as the first government-appointed geologist of New Brunswick (which was the first such post of any British colony).

Gesner's Dream, by Gwen Martin, is not about the man; it is about his conviction, whilst working as provincial geologist, that New Brunswick would eventually become a significant centre for mining. That did happen of course, and Gesner's Dream is a chronicle of the rich three-hundred year history associated with the early development of mining in the province. The book is published by the Geological Association of Canada (gacdev.ucs.mun.ca/members/publications/view_pub.php?id=55).

On the associations between music, geology, and the first Canadian rock group
Whether it is Dr. Gesner playing Scottish Airs on his fiddle, or whether it is the collegial group of musicians playing together each year at the AGS Colloquium, there seems to be a more-than-random association of geologists with music. I have heard several theories as to why this might be: proficiency in either geology or music requires dedication, imagination, and creativity and so those who practice geology might find themselves well-equipped to practice music; long periods of

isolation in field camps provides strong motivation for geologists to develop any attention grabbing skill that might help attract a mate; and then of course there is the strong affinity that many geologists express for beer, which might be linked to a physiochemical state that creates a perception of musicality which does not exist in reality. Personally, I subscribe to the prudence theory: if one chooses geology as a profession it may well be prudent to have a second potential source of income.

Whether or not they are aware of these theories, the people at Library and Archives Canada have chosen to use a musical analogy to tell the history of the Geological Survey of Canada. Their website (www.collectionscanada.ca/rock/) introduces the GSC as "Canada's First Rock Group" and continues the metaphor with links entitled "Making the Band", "Life on Tour", "The Hits", "Hall of Fame", and "Rock Legacy". With well-written, descriptive text linked to a glossary and to lists of materials for further study, I find the Library and Archives website to be informative for adults and students alike. It also contains many 19th century photographs that are absolutely fascinating. They depict the people who comprised some of the early GSC field crews, the conditions they experienced, and the methods they used to explore Canada. There were no mandolins or fiddles to be seen in the photographs, but I am confident that there were musical instruments tucked away in at least a few of those Logan tents!

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REGIONAL NEWS AND UPDATES

ACADIA UNIVERSITY

The Fall term is now well underway, bringing with it a number of major changes to the Geology Department at Acadia. As of October 1st, the Dean of Pure and Applied Science moved up to Acting Vice-President, and Rob Raeside moved into the position of Acting Dean in his place. Cliff Stanley took over as Acting Head of the Geology Department. These changes are expected to be in effect until July, 2007. In addition, we are moving toward an administrative merger between the Department of Geology and the Environmental Science program at Acadia, also to be achieved by July, 2007.

Nancy Van Wagoner resigned from Acadia in August to take on a position as Associate Vice President, Research and Graduate Studies, at Thompson Rivers University in Kamloops, British Columbia. We wish her well in this major career move.

Cliff Stanley returned in July from a very successful year-long sabbatical in Perth, Western Australia. Cliff was working with the CSIRO Exploration & Mining Division, and became involved in several of their projects, one involving a low density laterite geochemical survey across the western half of the Yilgarn Craton, one developing several new partial leach technologies for use in soil geochemistry, and one involving the application of molar element ratio geochemical data evaluation techniques in the interpretation of groundwater compositions and compositional controls. Cliff's biggest negative regarding Australia was the lack of seasons, but this was also his biggest positive. As a result, Cliff was able to ride his road bike year round, effectively riding the distance from Halifax to Vancouver during his time in Oz.

Ian Spooner was the Acadia Liaison for the Deep Roots Music Festival in Wolfville that ran from September 15-17th. As part of his duties Ian organized The Artists @ Acadia seminars on the Acadia Campus featuring Festival artists doing free seminars open to both the Acadia and outside community. Over 280 people attended the seminars and 75 attended a fiddle Master's class taught by Jay Ungar and Cape Breton's own Troy MacGillivray.

Eric E. Hiatt is a visiting scientist at Acadia this term while on sabbatical leave from the Geology Department, University of Wisconsin – Oshkosh. Eric is a chemical sedimentologist who specializes in carbonate, phosphatic, and iron formation sedimentary systems. He is collaborating with Peir Pufahl on an investigation of the sedimentology and lithogeochemistry of Paleoproterozoic phosphatic iron formations in northern Michigan.

Rob Raeside and Sandra Barr led an enthusiastic group of students on a "trans-Cape Breton Island field trip" on September 15-17th. We were blessed with exceptional weather, and Laurentia, Ganderia, and Avalonia were displayed to full advantage.

The Fletcher Geology Club is looking forward to an active year. They hosted a welcoming barbecue in the first week of classes, and are planning a number of field trips and social activities, as well as helping with the campus blood donor clinics, a long-standing club tradition.

The year looks busy in terms of visiting speakers and other special events - anyone interested in attending such events at Acadia should periodically check out the website at http://ace.acadiau.ca/science/geol/index.html

We welcomed three new graduate students to the department in September.
Stephanie Anderson will be working with Peir Pufahl on the chemical sedimentology of Paleoproterozoic phosphatic iron formation in the Labrador Trough and the evolution of the early ocean.
Sheri Lyon will be working with Sandra Barr and adjunct professor Sonya Dehler to interpret the source(s) of magnetic and gravity anomalies on the Scotian shelf south of Cape Breton Island and attempt onshore-offshore geological correlations.
Doug Stiff will be investigating flood risk in an ungauged watershed in a coastal environment using LiDAR and GIS

Tools, supervised by Ian Spooner.
On-going M.Sc. students include **Gleb Bukarin, Andrea Lundrigan, Aaron Satkoski**, and **José Texidor-Carlsson**.

B.Sc. Honours theses in geology and environmental geoscience this year are listed below in alphabetical order by student name.
Geoff Baldwin - *Sedimentology and diagenesis of the Carboniferous Windsor Group in the vicinity of Newport Landing, Hants County, Nova Scotia* (supervisor Peir Pufahl).
Rafael Cavalcanti de Albuquerque - *The southern Nova Scotia wine terroir: A geological and pedological approach including the cation exchange capacity of soils from vineyards* (supervisor Ian Spooner).
Crystal Laflamme - *Mineralogy and petrology of the 777 volcanic hosted massive sulphide deposit, Flin Flon, Manitoba* (supervisor Cliff Stanley).
Mary Samolczyk - *Arsenic, uranium and other key constituents in water from drilled wells: a study of local geochemistry and its effects on the residents of Grand Pré, Nova Scotia* (supervisors Linda Lusby, Ian Spooner, and Cliff Stanley).
Tyler Smith - *A baseline assessment of surface water quality in the Kesagami River Wilderness Area, Ontario* (supervisors Ian Spooner and Trefor Reynoldson).

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UNIVERSITY OF NEW BRUNSWICK
At UNB, Paul Wilson defended his Ph.D. on the "Structural Geology, Tectonic History and Fault Zone Microstructures of the Upper Paleozoic Maritimes Basin, Southern New Brunswick". He was supervised by Prof. Joseph C. White.

Also, Richardo O'Neil White defended his M.Sc. thesis on "Pseudo-3D seismic imaging of intertidal and sub-tidal zones at Waterside Beach, Bay of Fundy"; he was supervised by Prof. Karl Butler.

As of July 1st, Prof. Joe White passed over the reigns of the department over to Prof. Bruce Broster, who became Chair. Bruce has an active agenda. Most recently, he led (with Prof. David Lentz) a 1-day field trip for first year students up the Trans-Canada highway, which is always a fun event. Bruce has also been active trying to replace a few vacated positions in the department, and following up on our advertisement for a tenure-tract position in Metamorphic Petrology/Material Science.

Geology has been taught at UNB for 170 years. This September, history was made as the advanced field school (3rd year, led by Prof. Joe White), for the first time, was attended entirely by female students. Congratulations and welcome to the 21st century.

Prof. Cliff Shaw pulled together a very classy UNB Geology Alumni Newsletter that will soon be posted on the Geology Department website. This is a nice compliment to the website which we use to note important past events at the university.

Left to right: Lydia Calhoun, Angela Page, Sarah O'Brien, Kristy-Lee Beal, Michelle McKeough, Jillian Craig, Erin Powe (photo: David Lentz).

Prof. Karl Butler is still on sabbatical in Perth Australia. He recently is back from a week long excursion deep in the outback, where he helped out with a geophysics field school.

Karl made his first marsupial friend in the outback; I think he was attracted to the efficiency of the multiple pockets. Come back soon Karl....we need you!

Dr. Adrian Park continues working with Prof. Dave Keighley (UNB) and Clint St. Peter (NB DNR) on the structural evolution of the Tournaisian basins of SE New Brunswick. Fieldwork this summer concluded the first phase of this work through the Hillsborough-Elgin area (NB). In May, with Prof. Dave Lentz (UNB) and Prof. Nelson Eby (U. Mass), Adrian also helped lead a post-GAC/MAC field trip through the Monteregian Hills (Oka, Mount Royal, Ile Ste-Helene, Mont St. Hilaire). Prof. Ron Pickerill remained extremely busy as

the editor for several journals.

On Thursday October 5th, approximately 25 students and a dozen alumni and friends of UNB Geology attend the 'CIM Student-Industry Meet & Greet', with NB CIM pitching in pizza and pop. Paul Rennick (NB CIM President 2005-2007) gave a great presentation of the role that CIM National (www.cim.org) and NB CIM Branch play in professional development and networking. NB CIM contributes to the annual NB student geoscience scholarship program of which many of our students have benefited. Paul (NB DNR-Minerals staff) is an alumni of UNB, graduating with his B.Sc. in 1982.

At the end of the mixer, Andy Cormier (CIM District 1 Chair and NB Coal superintendent for NB Power) announced that NB Coal will donate the popular book 'Gesner's Dream', authored by Gwen Martin (local author and geoscientist), to every student attending this event.

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AWARDS AND NOMINATIONS

Call for Applications Mary-Claire Ward Geoscience Award 2007

The Selection Committee for the Mary-Claire Ward Geoscience Award is now calling for applications for the third annual presentation of the award. The award honours the many contributions to the Canadian geoscience community of Mary-Claire Ward, a past-president of GAC, long-serving chair of PDAC's Geoscience Committee, and former chairperson of Watts, Griffis and McOuat Limited. The award, which consists of a $3,000 prize, a certificate and an opportunity to attend the annual meeting of either the Prospectors and Developers Association of Canada or the Geological Association of Canada, will be made to support a graduate student whose research has a strong emphasis on field mapping, in recognition of Mary-Claire's strong belief in the importance of this work.

Eligibility: Full time graduate students attending a Canadian university and undertaking a Canadian geoscience thesis that has a focus on field mapping (e.g. bedrock or surficial geology, geochemistry, geophysics) are eligible for the award. The student must have active student status until at least the last day of April, 2007. Previous recipients of this award are ineligible to apply.

Selection Criteria: Applicants will be assessed on the contribution of their work to geoscience mapping in Canada, their academic qualifications and supporting statements from sponsors.

How to Apply: Additional information about the award, application procedures and application forms will be posted on the websites of the PDAC (www.pdac.ca) and the GAC (www.gac.ca).

Application Deadline: December 15, 2006

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Call for Award Nominations

AGS Distinguished Scientist Award (Gesner Medal)

Criteria: 1) The Award is made to a person who has, through her/his own efforts (publications, maps, memoirs, etc.), developed and promoted the advancement of geoscience in the Atlantic region in any field of geology. 2) The contribution of the person should be of large enough scope to have made an impact beyond the immediate Atlantic region. 3) The person does not have to reside in the Atlantic region nor be a member of the Atlantic Geoscience Society. 4) The person must be alive and active in geoscience research, although not necessarily full time in the Atlantic region.

AGS Distinguished Service Award

Criterion: This Award shall be given in recognition of exceptional and altruistic contributions to the Atlantic Geoscience Society over a long period of time. There are no specific criteria other than this.

Nomination Procedures: 1) A statement of between 500 and 1,000 words, succinctly explaining how the candidate meets the selection criteria (see above). 2) Supporting documentation from the nominator and a letter of support from the seconder. The supporting documentation could include items such as (i) selected bibliography (must consist of *no more than* 20 key references; a complete bibliography including abstracts is not needed); (ii) documentation of impact of work; and, (iii) supporting letters from referees other than the nominator and seconder. 3) The nominator and seconder shall be members in good standing of the Atlantic Geoscience Society at the time of nomination.

Deadline for Nominations: December 15, 2006

If possible, nominations, supporting letters, and all documentation should be submitted electronically to allow easy transmission to judges. Please submit to:

Michael Parsons
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UPCOMING EVENTS

October 13-22, 2006
National Science and Technology Week
www.nrcan.gc.ca/nstw/atl

October 18, 2006
Beyond the Last Billion Years talk series, Dr. Michael Parsons, “Environmental Legacy of Historical Gold Mining Activities in Nova Scotia”, Bedford Institute of Oceanography
ags.earthsciences.dal.ca/ags.php

October 26-28, 2006
Atlantic Universities Geological Conference, Dalhousie University, Halifax
meguma.earthsciences.dal.ca/AUGC

February 2-3, 2007
33rd Annual AGS Colloquium and Annual General Meeting, Delta Beauséjour Hotel, Moncton
ags.earthsciences.dal.ca/ags.php

May 23-25, 2007
GAC/MAC Annual Meeting, Yellowknife
www.nwtgeoscience.ca/yellowknife2007/index.html
