

Introducing the new CFES/FCST President Bill Stiebel, MSc PGeo



I was honoured to be asked to become President of CFES (2010-2012). I have been impressed with what the organization has achieved since it evolved from the Canadian Geoscience Council (CGC) in 2006. CFES works cooperatively with its constituent members to present a unified, national voice for Earth Science in Canada through carefully selected projects.

An organization such as CFES can only succeed with ample volunteers, and we are fortunate to have dedicated and highly qualified people from constituent member organizations representing all of the Earth Science disciplines in

Board, Council and Committees. We are proud of all our volunteers and the amazing outreach effort through the Canadian Geoscience Education Network (CGEN), which CFES helps fund and which comprises over 400 members, many of whom are teachers.

Communication of complex issues to the public is always a difficult process and Earth Science issues are no exception. How does one attract attention? We had significant natural assistance in 2010: political, economic and civil society was mesmerized and at times paralysed by geologic processes.

The Haiti and Chile earthquakes, the Icelandic and Indonesian volcanic eruptions vividly illustrated the powerlessness of humankind in the face of Earth's dynamics. These catastrophes also demonstrated the need for incorporating Earth Science expertise in the more accurate prediction and mitigation of such events. Millions of people were glued to their TV watching the global reality drama of the Chilean miners' rescue, only possible because of a combination of state of the art structural analysis and mining, geotechnical and drilling engineering technology.

While society stands in awe of the most spectacular of earth processes (of short duration), there still is a general lack of understanding as to what needs to be done to adapt to slower processes such as currently unfolding climate change and eventual depletion of easily accessible fossil fuels. Society will be challenged to find new earth resources, manage water resources, develop alternative geo-energy potential, implement effective carbon sequestration, address permafrost melting and arctic infrastructure issues, protect coastlines from rising sea levels, engage aboriginal people in northern development and Earth Science, and encourage young people to consider a career in our fascinating field

A key CFES activity during 2011 will be preparation of a Canadian bid to convene the International Geological Congress 2020 in Canada (see further page 3 of this Newsletter). We also plan to involve more young professionals in our Board. As always, volunteers are needed, contact our office if you are interested in contributing.

My best wishes for 2011!

Special points of interest:

- CFES will have a completely new website in early January 2011
- CFES's Spring Council meeting will take place May 7, 8 in Calgary
- Canada hopes to host the International Congress in 2020; CFES is leading the Bid process
- CFES is looking for Young Board members! Contact the office if you are interested (don't be shy).



First North American Geopark Approved in Canada



The Global Geoparks Network, supported by UNESCO, announced in early October 2010 that the first geopark in North America has been approved.

The new Stonehammer Geopark is located in southern New Brunswick within and around the city of Saint John. The Stonehammer proposal was reviewed by the Canadian National Committee for Geoparks (a CFES/FCST committee) in October 2009; the community group made its application to the Global Geoparks Network in late 2010 and passed the UNESCO-supported desktop evaluation in April 2010.

Two international on-site evaluators, Patrick McKeever (Ireland) and Claudia Eckhardt (Germany) were dispatched to the proposed geopark in August 2010 and were clearly impressed with the billion-year history of geoheritage in the region, the strong links to the history of geoscience and the tremendous community participation in southern New Brunswick. The approval of the Stonehammer proposal was announced at a Global Geoparks Network meeting in Greece in October.

This is the first geopark in North America and represents a landmark for geotourism on the continent.

The Stonehammer name is inspired by the early history of scientific exploration in the region. It is named after the Steinhammer Club, formed in 1857 by a group of young men in the Saint John region that were interested in exploring

the geology near their home. Some of these, including George Matthew, published significant articles on the rocks and fossils of the region in the nineteenth century.

Godfrey Nowlan, chair—Canadian National Geoparks Committee



St. Martin's River (NB), one of the sites of the Stonehammer Geopark (photo E. Koster)

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CFES/FCST Council meeting in Ottawa, Nov 6, 7 2010



The CFES/FCST Council meeting ended up being yet another intense full 2-day event. This picture was taken just after the Annual General meeting on Saturday afternoon by Jeff Packard (who had just stepped down as CFES Board Member).

In the picture from left to right Larry Herd (CSEG), Steve Holysh (who also just stepped down as CFES Board member), Godfrey Nowlan (CFES Board), Elisabeth Kusters (CFES office), Bill Stiebel (who had just become CFES's new President), Andy Fyon (CPTG), Pat Ryall (CFES treasurer), Bill Mercer (who had just stepped

down as president and is looking at his thank-you gift, a 100-yr old map of the BC Gold fields), Mike DesRoches (CSPG), Anne de Vernal (Canadian Consortium for Ocean Drilling, which is Canada's committee for the Integrated Ocean Drilling Program IODP), Peter Bobrowsky (CFES International Director), Dave Eaton (CCCESD), Dan Smith (CAG) and Richard Moore (PDAC). Missing from the photo: Grant Ferguson (AGS and CNC-IAH), Paula Piilonen (MAC and ANHMC) and Sai Vanapalli (CGS).

Most important outcomes of the meeting:

1. CFES is still vulnerable financially and by no means on secure ground in the long term.
2. Both CFES and its members vowed to improve communication in both directions.
3. The IGC2020 bid committee continues to work towards hosting this prestigious conference in Canada in 2020 (see further in this Newsletter).

4. The Canadian Consortium for Ocean Drilling has been invited to produce a position paper on Canada's role in the International Ocean Drilling Program so CFES can advocate this important global program in Canada.
5. CanGeoRef is progressing according to plan. An introductory webinar for Provincial and Territorial Survey Directors will be held in January 2011.
6. CFES will carry out a Survey of Under 35-yr old Earth Science graduates—see further in this Newsletter.
7. CFES will work on developing a National 'excellence in earth science university teaching' award.
8. **THE NEXT COUNCIL MEETING WILL BE HELD MAY 7 AND 8 IN CALGARY.** More information to follow later.

All documentation about the meeting is on the CFES website www.geoscience.ca

*"The actions we take will be
guided by science and by
facts, not by politics and
public relations,"*

Hon. John Baird, minister of
Environment, commenting
on the release of the expert
panel report on
environmental and health
impacts of the Canadian Oil
Sands industry, Dec. 21, 2010

RSC Expert Panel on Environmental and Health impacts of the Canadian Oil Sands Industry

Surely one of the most anticipated reports this Fall was that of the independent Federally appointed expert panel on the Environmental and Health impacts of the Canadian Oil Sands Industry.

While many expected industry to get severely criticized by the panel's report, its outcome was somewhat milder than expected. For example, the panel stated that there is no reason to suspect that documented increased cancer rates in downstream Fort Chipewyan are a result of oil sands-related pollution of the Athabasca River. Also, oil sands development is currently not a threat to the aquatic system of the Athabasca River.

However, the panel was critical of the slow pace of oil sands area reclamation: to date, only 1 km² out of 600 km² of mined lands has been reclaimed. Because of weak regulatory processes, industry has not been forced to post sufficiently financial security for reclamation. As a result, taxpayers end up footing the bill.

Another critique refers to the Environmental Impact Assessment process, which is not carried out according to international standards. Panel Chair Elizabeth Dowdeswell (recently appointed as president of the Canadian Council of Academies) stressed the importance of internationally accepted standards in order to (re)gain trust of Canadians. In reply Alberta environment minister Rob Renner

promised to give Canada a 'world-class system' and he started that process immediately

Debunked was the notion that the Oil Sands are a significant contributor to Canada's Greenhouse gas (GHG) emissions: their contribution is about 5%, compared with 16% for fossil fuel-fired power generation and 27% for transportation (Environment Canada, 2008). The panel did warn, however, that expanding production from the oil sands (as is expected) could hamper Canada's emission reduction targets.

The full report can be downloaded from the Royal Society website: www.rsc.ca

The transition from Graduation to Employment; an online Survey for the 'under 35'

CFES, in cooperation with Geoscientists Canada (www.ccpq.ca) and the Canadian Council of Chairs of Earth Science Departments (<http://cccesd.acadiau.ca/>) has identified the need to better understand the transition from university graduation to initial career advancement of Canadian Earth scientists.

The first 10 years after graduation (at BSc, MSc or PhD level) are the most important years for giving direction to a career and we therefore focus this effort on graduates under 35 years old. We want to improve our understanding of this transition period because of two reasons: 1) possibly as many as 1/3 of graduates end up working outside the earth sciences; 2) an im

pending wave of earth scientists will retire in the next 5-10 years, resulting in a shortage of professionals in all sectors. The Canadian economy will suffer if insufficient qualified professionals can be found to fill these vacancies

It is therefore imperative that we communicate with directly and find out what positive and negative factors have led to where they are in the early stages of their career.

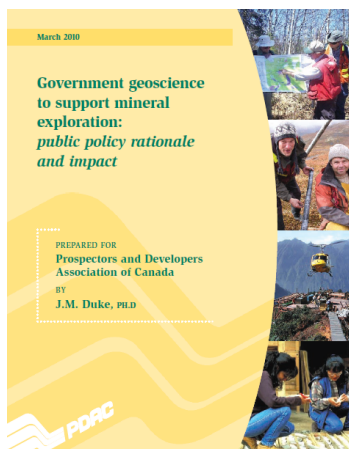
Hence, an online survey! The "Canadian Earth Sciences Graduates Survey" is a tracking tool that will run on the web every other year. Respondent identity information will remain anonymous. CFES will publish the results and advocate any issues that come out of this Survey.



Find the Survey at www.surveymonkey.com/s/CFES_Under_35_workforce. There will also be a link to the Survey on the CFES website www.geoscience.ca



PDAC commissions report on the importance of Government Geoscience for mineral exploration



This study was written by former GSC Director General Murray Duke. Its most important contribution to the public debate is an elegant economic argument for geoscience information as a public good. All those studying economic

geology, please read this part carefully! Geological Survey organizations fulfill an essential role in providing objective geoscience information necessary to formulate sound decisions about land use, health and safety policies, environmental management and (investments in) natural resources development.

What is surprising is really that it was again necessary to commission such a study: isn't it blatantly obvious that jurisdictions need objectively gathered geoscience information in order to formulate sound policy? It should be, but it isn't: total current expenditures of geological survey organizations in Canada are about 60% of what they were in the 1980s (figure corrected for inflation) and they are expected to decline again in the wake of recently announced austerity programs. Meanwhile, their contribution to economic development and sound land use policy development is without doubt.

The result of these budget cuts is that geological surveys currently are able to perform only some of their essential tasks. These cuts,

particularly in the Provinces and Territories, may lead to decreased competitiveness for Canadian resource development, inadequate land use decision making and increased risk to Canadian infrastructure and quality of life.

Nobody suggests that Geological Survey organizations are above critique. At the CFES-hosted 'Future of Earth Sciences in Canada' session at the GeoCanada 2010 Convention, former GSC Chief Scientist Jim Franklin argued that the GSC has shown excellent leadership with respect to National technical programs (e.g. Lithoprobe), but that it must improve communication with universities and industry. He also argued that while Provincial/Territorial Surveys provide superb geoscience information, they must add a focus on land use planning and urban issues.

The report can be downloaded from the PDAC website (www.pdac.ca) and from the CFES website (www.geoscience.ca/industry.html)

"The fact that geoscience information has the economic characteristic of a public good is not the only argument for its provision by government."

J. M. Duke, 2010

Earth Science in popular Canadian media

Nick Eyles (UoT) was the main force behind the 2007 CBC documentary **Geologic Journey**, which showcased the fascinating Canadian geology. He was subsequently able to convince the CBC to move ahead with a 'geology of the world', and this became **Geologic Journey II**, which is running this fall as part of David Suzuki's 'The Nature of Things'. The best part is that the whole thing is online and quite interactive! Take some time to study the website!: www.cbc.ca/documentaries/

natureofthings/geologicjourney2/

Canadian Geographic Magazine has run several Earth Science related articles in the past few months. One article covers the Federal and Provincial GEM (Geology for Energy and Minerals) mapping program: www.canadiangeographic.ca/mapping/articles/geology-northern-canada.asp.

The October 2010 issue of Canadian Geographic was entirely dedicated to

'Climate Prosperity' and has several articles much worth reading: www.canadiangeographic.ca/magazine/oct10/



International Geological Congress 2020— Bid process

CFES Council agreed to prepare a bid for the International Geological Congress in 2020 in May 2010. We have since been working to prepare for this bid. The IGC is held every 4 years, with countries bidding to host the congress 8 years prior to the actual date: the bids for IGC2020 will be submitted in 2012 at IGC34 in Brisbane.

Canada hosted IGC twice before: the 12th IGC was held in Toronto in 1913 and the 24th IGC in Montreal in 1972. Hence the logical desire to go for the 36th IGC in Canada in 2020!

The congress, typically hosting ca. 10,000 delegates from dozens of countries, is an opportunity for Canada to demonstrate its earth science expertise across the board. Engagement of all sectors (government, academia and industry) in the process is

considered an essential ingredient for success.

The CFES IGC2020 Bid Committee will lead the process. Subcommittees are being formed to address specific matters (e.g. special symposia, field trips, outreach and cultural events). Scientifically, the congress will cover the entire breadth of earth sciences that is represented by CFES: earth resources, fundamental earth science research, oceanography, hydrogeology, Quaternary research, climate change research, etc.

The IGC2020 Bid Committee has signed a contract with NRC Conventions, which will run the administrative and logistic aspects of the bid process and the congress if Canada wins it.

The congress venue has not yet been chosen. It will be decided on the basis of a transparent selection process. Whatever the location, there will be considerable benefits throughout Canada, as the congress will involve field trips throughout the country.

The IGC2020 bid committee welcomes interest from anyone interested to make a contribution to this initiative. We are also seeking sponsorship for the bid process. If you want to be affiliated with this historic initiative, please contact the IGC Bid Committee.

Bill Mercer, IGC2020 Bid Committee chair

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ON THE WEB

International

International Union of Geosciences www.iugs.org. Subscribe to its monthly newsletter through this link. As part of its 50th Anniversary celebrations, IUGS invites all early career geoscientists (under 35 years of age) to submit an essay on their view of the *Future of the Geological Sciences*. See website for details.

The Network of **Young Earth Scientists** (roughly under 35 yrs old): www.networkyes.org

International Geological Congress 2012, Brisbane. First Circular is out. www.34igc.org/

Subscribe to excellent short science news reports from the **US National Science Foundation**: www.nsf.gov/news

The **American Geological Institute** publishes regular briefs on the environment at www.agiweb.org/environment/earthnotes and on workforce issues at www.agiweb.org/workforce/currents.html

Canada

Partnership Group for Science and Engineering: www.pagse.org **Science Media Centre of Canada**: www.sciencemediacentre.ca

Council of Canadian Academies: www.scienceadvice.ca; **Canadian Science Policy**: <http://sciencecanada.blogspot.com/> and <http://sciencepolicy.ca/>

Recent news from the **Mining Industry Human Resources Council**: www.mihrc.ca/en/news/MiHR_enews_Nov2010.asp

The Canadian Association of Palynologists (www.scirpus.ca/cap/cap.shtml) calls for applications for its student research award: tlacours@uvic.ca

www.geoscience.ca

We apologize: our website has not been updated since Nov 1, reason being that we are building a completely new site, which will go live in early January 2011. Keep checking!

CALENDARS

Canadian Earth Science events: www.gac.ca/activities/calendar.php

International Earth Science calendars:
www.agiweb.org/calendar/index.php
<http://iugs.org/index.php?page=calendar>

2011

CFES member society meetings

AGS Annual Colloquium, Febr. 11-13,
Fredericton, NB, <http://ags.earthsciences.dal.ca/ags.php>

PDAC Annual Convention, March 6-9, 2011,
www.pdac.ca/pdac/conv/index.html

CSPG, CSEG, CWLS, Annual Convention,
May 9-13, 2011, Calgary:
www.geoconvention.org

CIM Annual Conference and Exhibit, May 21-25, Montreal. <http://www.cim.org/montreal2011/>

GAC-MAC, May 25-27, 2011, Ottawa -
www.gacmacottawa2011.ca

CAG May 31-June 4, 2011, Calgary -
www.cag-acg.ca/en/cag_annual_meeting.html

CNC-IAH and CanQua, August 28-31,
Quebec City - <http://geohydro2011.ca>

CGS, October 2-6, 2011, <http://panam-cgc2011.ca/index.php?lang=en>

International Polar Year Convention,
Montreal 2012, www.ipy2012montreal.ca

MEMBER SOCIETY PORTRAIT

Fourteen organizations make up CFES: twelve member societies and two cooperative groups. We meet twice a year 'live' at our Council meetings and invariably there are delegates who are surprised and impressed when they learn about the activities of some of the other member societies. "I had no idea" is what we often hear.

Therefore we start a series of member society portraits. We begin with the Atlantic Geoscience Society, the most recent member of CFES.

AGS (<http://ags.earthsciences.dal.ca/ags.php>)



started in 1971. The society exists to promote a better and wider understanding of the geology of Atlantic Canada, both to its members and to the public. This means that outreach is at least as important as service to its membership.

Current membership is ca. 150, mostly from Academia & Government, making AGS one of the smallest CFES member societies. But small is truly beautiful as AGS is a stellar example of a focused, well organized group of peers.

AGS hosts an annual conference (called the Colloquium), the venue of which moves around the Atlantic Provinces. The popular event is held on a weekend in early February. A wide variety of special sessions, workshops and fieldtrips demonstrate the extensive involvement and commitment of its membership. Early February may seem a strange timing for a conference to some, but it is especially attractive for undergraduate research students who, at that time, have their first results ready to discuss before looming end-of-term deadlines. Awards for outstanding undergraduate and graduate work are presented as well as awards for outstanding service to AGS and the geologic community.

AGS owns and operates **Atlantic Geology** (<http://journals.hil.unb.ca/index.php/AG>) an international scientific journal that covers all aspects of the geology of Atlantic Canada and related areas. Atlantic Geology is entirely online and the first 42 volumes can be downloaded for free. The Journal maintains a good science citation index position and sufficient institutional subscriptions on both sides of the Ocean.

AGS is very strong in **outreach**, being the initiator of successful series of Geologic Highway maps for Nova Scotia and New Brunswick and a founding organization in the establishment of C-GEN. AGS members were instrumental in forming the first Geopark in North America (Stoneham, see p. 1 of this Newsletter) and in achieving UNESCO World Heritage status for the Joggins Fossil cliffs.

Atlantic Geoscience Society

In 2000, AGS published *'The Last Billion Years; a geologic history of the Maritime Provinces of Canada'*. This book achieved Canadian non-fiction best seller status in 2001 and has since had two additional printings. *LB*, as it is lovingly called by Maritime earth scientists, has been accompanied by a lecture series for the general public at the Nova Scotia Museum in Halifax every year since its publication. The concept of *LB* is the basis for the book that is currently nearing completion as part of Canada's contribution to the International Year of Planet Earth: *'Four Billion Years and Counting'*. GSC-Atlantic palaeontologist Rob Fensome is editor-in-chief for both books.

AGS is affiliated with GAC, CSPG and AAPG.

