



# VOICEPIPE

Issue 95

April 2024

*The Newsletter of the BIO-Oceans Association*

## The 2024 Beluga Award Recipient Patrick Meslin



Photo: Kelly Bentham

### BELUGA AWARD CEREMONY

(to be confirmed)  
Tuesday 4 June 2024  
11 am  
BIO Auditorium

BIO-OA AGM  
Same day and place  
9:30 am

#### Contents

The 2024 Beluga Award Recipient: Patrick Meslin	1
President’s Message	2
Interim Editor’s Keyboard	2
VNIO and ESSO visit to BIO	3
<i>Hudson</i> Highlights: Beaufort Sea	4
Tribute to Bruce Anderson	6
Boat sitting in Guatemala	6
Don Gordon’s <i>Hudson</i> lecture at the MMA	8
Touching memories of a time and place. Coincidental encounter years later.	9
BIO Today: Updated Sub-facial Geology Map Scotian Shelf	10
BIO Today: Deep Convection in the Labrador Sea	11
MAR Update	12
About the Association	12

## The 2024 Beluga Award Winner

Congratulations to Patrick Meslin the winner of the 2024 BIO Oceans Association Beluga Award!

Patrick carries on the tradition of previous winners, demonstrating all the qualities that the Beluga Award recognizes: dedication to community spirit, exceptional contributions to the success of projects, initiatives and programs, and unselfish effort that encourages cooperation and fosters the team-work approach of BIO.

As a field technician, Patrick is much sought-after by chief scientists because of his skill, work ethic, enthusiasm and his generally unflappable nature. He pulls a lot of ship time, often on night shift, keeping equipment running, collecting high-quality data, and dealing with problems promptly as they arise without fanfare or drama. He's worked on countless field programs with NRCan, DFO and others off all of Canada's coasts and in the high Arctic, contributing substantially to the UNCLOS Program over many years and expeditions.

His encyclopedic knowledge is wide and impressive. People come to him with all kinds of problems, many of which are completely outside his assigned work.

He's also a valuable sounding board and source of information and advice on a myriad of topics.

In addition to contributions in the field and through instrument development, Patrick has been a stalwart supporter and active participant in the wider BIO community, including his leadership in the BIO Gardening Committee, the Parker Street Christmas Hamper Delivery Program and his behind-the-scenes work on numerous BIO activities, helping them to run smoothly and efficiently.

The Parker Street program is one of the most visible and important community outreach programs that BIO is involved in, and one that has become a cherished and meaningful Christmas tradition for many BIO staff who participate.

Please join me in congratulating Patrick on this well-deserved award and come out to attend the presentation ceremony in the BIO Ford Auditorium at 11 am, 4 June 2024, immediately following the BIO Oceans Association AGM.

Patrick Potter

President, BIO Oceans Association

## PRESIDENT'S MESSAGE

Hello,

This is my last President's message as my two-year term will be ending at our upcoming AGM, 9:30 am, tentatively scheduled for 4 June 2024 in BIO Ford Auditorium. Watch for confirmation of the date on the website, and by email and social media.

During my tenure over the last two years, we have said goodbye to long-serving members of the executive Charles Schafer and Clive Mason and welcomed new faces Alice Gilson, Michel Therrien and Chris Jauer. In 2023, we celebrated the BIO Oceans Association's 25<sup>th</sup> anniversary, holding an in-person AGM and awarding a backlog of three Beluga Awards to Dale Buckley (posthumously), Shawn Roach and Kelly Bentham. We also had an informal celebration at the BIO Auditorium in November, where we enjoyed some live music, mingled with old friends and welcomed some OA-curious BIO guests. We want to have more of these types of events to get the membership out and engaged and to attract new members among current BIO denizens.

The pandemic took its toll on the Oceans Association and we've been working to re-engage with the membership and rejuvenate our executive. We've met frequently over the past many months to discuss the many challenges facing us and how best to position ourselves to meet the next phase of our organization. As I've said in the past, today's BIO is very different from the one that founding Oceans Association members remember. It's far more diverse thematically and staff continue to work in a hybrid system. This poses a challenge to be relevant and attractive to current BIO staff. Publication of the *Voicemail* and events like the Beluga Award presentation ceremony are important means of outreach, visibility and marketing for us.

I encourage you to attend this year's AGM and stay for the Beluga Award ceremony where NRCan's Patrick Meslin will accept this well-deserved recognition. It has been a privilege to serve as president of this association. I humbly thank the BIO Oceans Association executive committee for their hard work, dedication and the support they have given me.

Patrick Potter

***The Interim Editor's Keyboard*** My first BIO-OA newsletter as editor was published in April 2010. Micheal Murphy took over as Editor when I became President of the OA in 2019. When Michael's tenure ended, thank you Michael, I returned to the *Voicemail* as Interim Editor. My invitation to members to take on an issue as Guest Editor so far has not been accepted. **The invitation to be Guest Editor for one issue is still open.** I want to thank all of the contributors to this issue. Collecting stories of interest to readers is the most challenging job of being Editor, having contributions makes the job easy. Consider sending me a story for the next issue. **Andy**





Photo Caption: Back row, left to right: Karl Usow (Blue Vajra), Sergei Andrianov (VNIIO), Mike Hughes (GSC – in the tiger suit), Sergei Maschenkov (VNIIO), Jacob Verhoef (GSC), Mascha Korneva (VNIIO), Steve Perry (GSC) and Paul Kieniewicz (ESSO).

Front row, left to right: (all with GSC Atlantic except where indicated otherwise): Ron Macnab, Paul Girouard, Allen Stark, Gordon Oakey, David Vardy (Blue Vajra) and David Prior (Director, Atlantic Geoscience Centre).

Photo Credit: Joseph Robicheau Photography

### **VNIIO and ESSO visited BIO in the mid-1990s for a Geophysical Workshop**

*by Ron Macnab, GSC (Retired)*

Sponsored in the mid-1990s by ESSO Exploration Incorporated, three Russian scientists from the VNIIOkeangeologia Institute\* in St. Petersburg completed a two-week data processing workshop at the Atlantic Division of the Geological Survey of Canada at BIO. Undertaken as a three-way collaboration between VNIIOkeangeologia, ESSO and the GSC, the workshop focused on the analysis of aeromagnetic data with the objective of developing a better understanding of the structure and tectonic history of the circum-Arctic continental shelf. Local software firm Blue Vajra Computing participated in the demonstration and familiarization phases.

\*Translation: *All-Russia Research Institute for Geology and Mineral Resources of the World Ocean.*

## Hudson Highlights: Beaufort Sea

by Steve Blasco

Oil was discovered on the Beaufort Sea coast, Tuktoyaktuk peninsula, NWT, in 1969. This initiated an intense period of exploration drilling of the Beaufort continental shelf by the petroleum industry (Dome Petroleum, Gulf Canada, Esso Resources Canada) in the 1970's and 80's. First awareness of potential seabed geological hazards to offshore drilling was sparked in 1969 with the Arctic voyage of the tanker, *MV Manhattan*. While navigating across the Beaufort Shelf, the ship's hull barely cleared the crest of an ice-cored submarine pingo-like feature (large mound) in 50 metres of water.

The *CSS Hudson 70* 'Around the Americas' expedition spent a month (mid August - mid September, 1970) in an unusually ice-free Canadian Beaufort Sea. In conjunction with *CSS Richardson*, the first regional marine geological survey of the continental shelf and slope was conducted. Lead scientists Bernie Pelletier, Bosko Loncarevic, Chris Yorath and Jim Shearer coordinated

the investigation. Survey equipment (figure 1) included potential fields, reflection seismic, subbottom profiler, sidescan sonar and echo sounder, coupled with piston corers for sampling seabed sediments. Geological discoveries and regional mapping made on and below seabed were instrumental in providing the initial knowledge base for identifying potential geohazards to forthcoming offshore hydrocarbon exploration. Discoveries included the tracks and trails of ice keels carved into the seafloor by drifting sea-ice (figure 2), evidence of ice bearing sediments below seabed, multiple seabed pingo-like features (figure 3) and submarine landslides on the slope.

Without these regional data and startling discoveries, Natural Resources Canada marine geoscientists Jim Shearer, Mike Lewis, Jim Hunter, Phil Hill and Steve Blasco would not have been able to provide critical awareness of seabed geohazards to the National Energy Board (Federal regulatory agency), Territorial agencies, Inuvialuit Game Council and the oil industry itself.

*Continued on Page 5*



Figure 1 Operations laboratory onboard *CSS Hudson*, 1970. Left: Continuous seismic reflection profile of the sub-seabed generated by Hunttec 2A recorder. Centre: Peter Wadhams, graduate student participant, observing seabed saturated by ice scours on a continuous sidescan sonar profile generated by EGG Mark 1 recorder. Right: Jim Shearer observing seabed topography of a pingo-like feature on continuous bathymetric profile on a Raytheon recorder. Photo Credit: Roger W. Smith, student participant, *Hudson 70*.



During the 1970's and 80's these researchers generated an understanding of the distribution and severity of seabed geohazards facing drilling engineers. The range of instability conditions included seabed scouring by ice keels, subsea mud volcanism, active gas venting, thick subsea ice-bearing permafrost, low strength seabed sediments and the demise of artificial islands constructed as drilling platforms.

Following the failure of the first offshore exploration well in 1971, when little information on potential seabed

geohazards was available, 70 wells were successfully drilled on the shelf over the next 20 years. The new knowledge of geohazards that could adversely affect drilling operations contributed to the prevention of blow-outs and negative marine environmental impacts. This history is a very significant 'marine environmental protection' achievement for Canada that was initiated by the discoveries of the CSS *Hudson 70* 'Around the Americas' expedition.

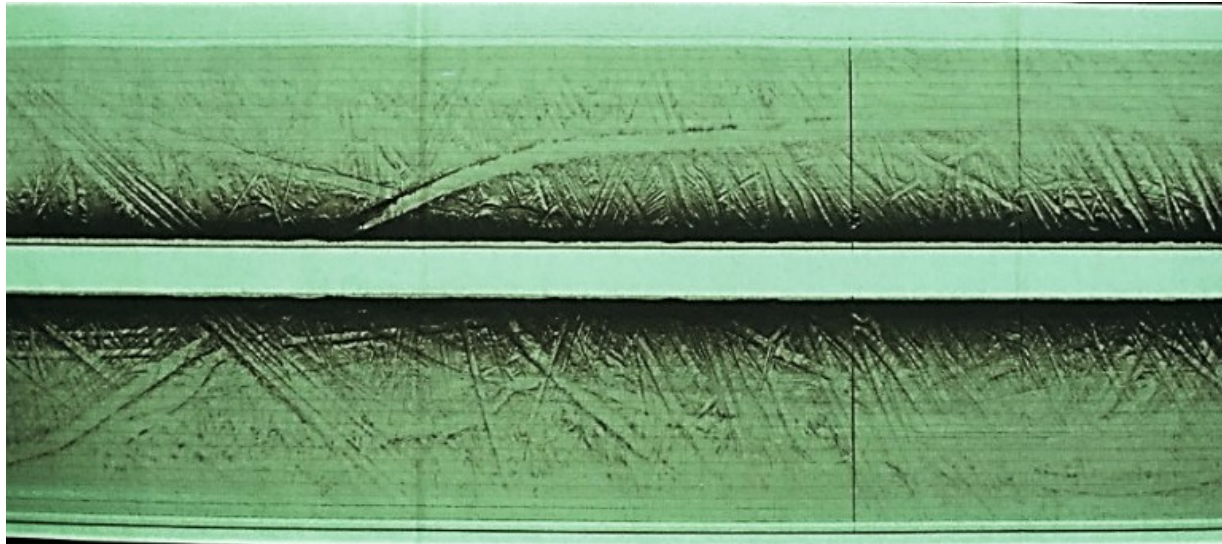


Figure 2 Sidescan sonar map view of Beaufort seabed showing criss-crossing tracks and trails of ice scours on port and starboard side of CSS *Hudson* survey line. Record length 2 kilometres, width 150 metres each side of survey line.

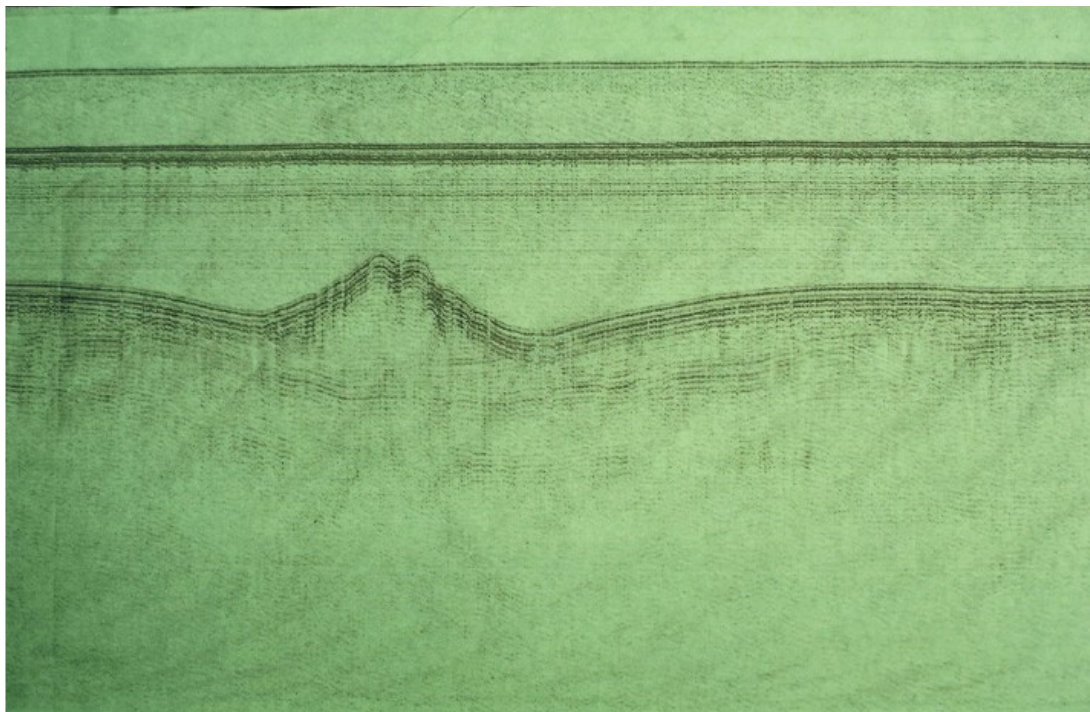


Figure 3 Seismic reflection cross section profile of 'dome/mound shaped' pingo-like feature (mud volcano?) rising above seabed. Average dimensions of a typical pingo-like feature in 50 metre water depth: crest height 30 metres above seabed, base width/diameter 250 metres.



## Tribute to Bruce Anderson

by Michel Therrien

After more than 28 years of service with the Canadian Hydrographic Service and nearly 40 years at BIO Bruce Anderson retired on 15 March 15 2024. On 27 March his colleagues gathered to wish him farewell during an Ice Cream Social held at the BIO auditorium. The Record Office, Marine Fish Division (otolith section) and NRCan (Labrador Sea Atlas) are other divisions/departments that contributed to Bruce's longevity at BIO. Bruce was the third generation of Andersons, following his father and grandfather's pathways.

As one of his colleagues at CHS, I always enjoyed working with Bruce. Whether it was on a special project (implementing ISO standards), daily activities within HDC or socializing, Bruce was always reachable. His charismatic persona made him the perfect host to welcome new employees. In addition to this role, Bruce contributed to the United Way Charitable Campaign, to five open houses, conducted tours, organized activities such as World Hydrography Day, birthdays, retirements, etc., and after many years as an Elf, Bruce graduated in 2019, to be the BIG man, SANTA.

Bruce is the ninth recipient of the Beluga Award. The award recognizes one's contribution to the BIO commu-



nity, the recipient is voted by his/her peers. Bruce is known to his colleagues, their children and in some instances grandchildren, as the CANDYMAN. When asked what he liked the best about his job his reply was "the people".

Retirement is, merely, a fork encountered on your charted life, time is relative. As you navigate, fear not, you are familiar with the beacons, the ebb and flow of events. As a proof, at the time of his retirement Bruce was and is a member of the Beluga Award Selection Committee. Congratulations on your retirement. Enjoy the voyage my friend.

## Boat sitting in Guatemala

by Bettyann Power



When I headed over to BIO to celebrate the retirement of the wonderful Bruce Anderson, Jennifer Mudge and I chatted about our retirement times, and Jennifer, being another wonderful BIO'r, whose enthusiasm is hard to deny, has me writing a little something for the *Voicepipe*.



Continued on Page 7



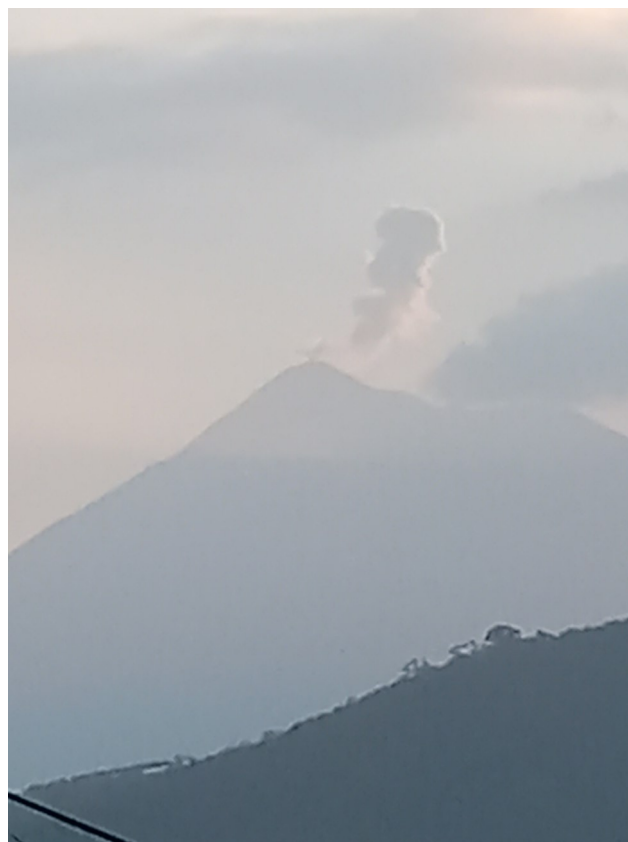
This past January, my husband and I headed down to Rio Dulce, Guatemala, to boat-sit on a Tayana 37. As experienced boaters, with a couple of winter treks down to the Bahamas on our Cheoy Lee 41 (since I retired in 2018) we knew we could live aboard (and stay married!) on a 37 foot boat. The adventure landed in our laps after I put out a hello to all the boating friends we have made along the way, with the offer to boat-sit if anyone wanted to have a couple of weeks ashore. (My expectation was maybe a week or two in the Bahamas) One of our boating friends, passed along my search to her boating circle and up came the fantastic boat-sitting term.

We had eight amazing weeks living alongside the Tortugal River Boutique Marina <https://www.tortugal.com/> which lies in the National Park Rio Dulce just downriver from a 16<sup>th</sup> century castle - Castillo San Felipe [https://en.wikipedia.org/wiki/Castle\\_of\\_San\\_Felipe\\_de\\_Lara](https://en.wikipedia.org/wiki/Castle_of_San_Felipe_de_Lara)

The jungle was right behind us, while the beautiful Rio Dulce gave us almost constant on-shore breezes. The owner said we could sail her boat while there, but we decided that breaking and repairing another boat in a third world country was something we weren't interested in. We kept our sailing to being guests on other boats and also had our dinghy that gave us travel freedom, as Rio Dulce is definitely a water-front community.

Picture this... not one to-do list, only the socializing decisions of what to do "tomorrow". On the Rio Dulce we

had 12 marinas and their boating communities with whom to play retirement. Oh my. There were hikes, day trips, lots of delicious meals to be had, pickleball to



play, movie nights, pools to swim in, hot spring waterfalls, and then just general downtime to enjoy a book or two. (The “caution alligators” signs were mostly respected when it came to swimming in the river)

A couple of highlights include time in Tikal at the Mayan ruins <https://mcd.gob.gt/tikal/>; time at Lake Atitlán (renowned as one of the most beautiful lakes in the world) [https://en.wikipedia.org/wiki/Lake\\_Atitlán](https://en.wikipedia.org/wiki/Lake_Atitlán), strolling around in Antigua [https://en.wikipedia.org/wiki/Antigua\\_Guatemala](https://en.wikipedia.org/wiki/Antigua_Guatemala) and having either our morning coffee or evening cocktail on our

airbnb rooftop and watching a volcano blow puffs (no lava). One of the most memorable times for me was crossing the rain forest tree line on a suspension bridge.

We’ve been invited to crew on a couple of boats and also return to Rio Dulce to boat sit a on a different boat next year. Yup, we are definitely blessed when it comes to our boating adventures... except for that one rogue wave last year when returning home from the Bahamas – *that* story needs its own chapter.

Let’s see what next winter will bring!

### Don Gordon addresses packed audience at MMA with his lecture on the *Hudson*

by Alice Gilson

On Tuesday, 16 April I had the pleasure of attending fellow OA member, Don Gordon’s talk, **Ship with a Soul : a brief history of the oceanographic research vessel CSS/CCGS *Hudson* (1963-2022)**.

The talk, held at the Maritime Museum of the Atlantic provided a comprehensive history of *Hudson*, starting with her inception, minor and major mishaps, her many achievements, her notable voyages, her contributions to science and, finally the plans for her successor. The talk was well attended. So well attended in fact, that the museum had to bring in extra chairs in order to seat everyone! Don has put so much effort and time into researching *Hudson*, and his talk reflected that.

It was thanks to Don's research that I also started to become interested in *Hudson*.

During the pandemic, the library at BIO was only open to library staff. As a library staff member, I would attempt to fulfill client requests in a manner compliant with whatever the current health and safety requirements were at that time. For quite some time this meant that we would retrieve materials requested by BIO clients and drop them off at the mailroom. This resulted in Don having to trudge to the mailroom, walking past the library in the process, to retrieve numerous grey library mailbags absolutely stuffed full of *Hudson* cruise reports. He looked at every single *Hudson* cruise report we had in the collection, five decades worth of cruises, only to find out that the library was actually missing quite a few cruise reports. Don was able to track down copies of almost all of the missing cruise reports, which he consulted and then kindly donated to the library.

Congratulations on your excellent talk Don, it was enjoyed by all. Thank you for all of the good work you do for BIO. We are very fortunate to have you.



Photo caption: (left) Packed audience in the small craft gallery at the Maritime Museum of the Atlantic Photo Credit: Alice Gilson; (right) Don Gordon delivers his lecture on the CSS *Hudson*. Photo credit: Heather Gordon

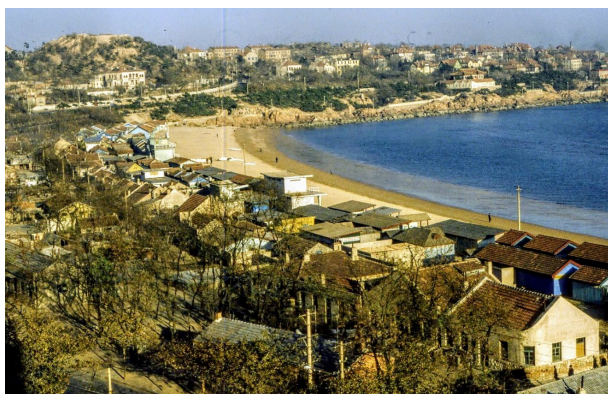
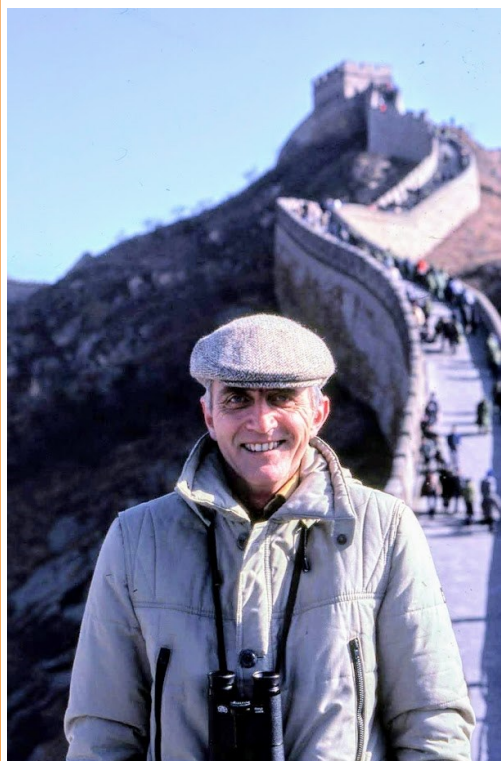


## Touching memories of a time and place. Coincidental encounter years later. Including photos of Alan Longhurst’s 1979 trip to China

by Youyu Lu

When I started at BIO in 2002, I saw Alan Longhurst’s portrait on the wall with the other BIO directors. But I did not see Alan in person, as he had retired in 1995. During my early years at BIO, I was narrowly focused on physical oceanography, so did not explore Alan’s scientific contribution which was in marine ecology. (Now nicely described by Bill Li in Wikipedia, [https://en.wikipedia.org/wiki/Alan\\_Longhurst](https://en.wikipedia.org/wiki/Alan_Longhurst)). Years later, in 2015, I was to meet Alan in person, for the first time. It was at a gathering in the Needler Boardroom to celebrate Alan’s 90<sup>th</sup> birthday. I was very impressed and immediately admired him. It was the morning of a mid-winter day after a significant snowfall, and Alan shoveled the snow in his driveway and drove to BIO by himself! There were photos presented at the party, including some he had taken during the 1979 trip to China. But my attention was drawn to his story about how he came to work at BIO. He had been contacted and offered the position by the then BIO Director, Dr. C. R. “Ced” Mann, by a long-distance phone call! He also shared fun stories about conducting and leading oceanographic research in those days, which also deeply impressed me. I was very impressed with Alan’s passion in science so long after his official retirement.

Soon after that party, John Loder told me that he was providing comments to Alan’s draft monograph entitled “Doubt and Certainty in Climate Science”. John had differing views than Alan, and I did not join the discussion but Now about Alan’s photos of his 1979 trip to China as a member of a DFO delegation to visit various marine institutes in China (refer to “Remembering Alan Longhurst” by Richard Addison, *Voicpipe* #94, February 2024). Bill Li scanned all 279 of the slides and organized them in travelogue sequence in a shared photo album (<https://photos.app.goo.gl/53o1K7shV9X5zHcc8>). While viewing those photos, I immediately recognized some familiar sceneries, streets, buildings and people’s lives, consistent with my own personal memories of China around that time. I did not have the chance to meet Alan in 1979 during his visit to China, as I had just started high school that year in my hometown about 100 km to the north of Qingdao. Later, in 1981, I went to Beijing for university, and came to Qingdao in 1986 to the Ocean University which Alan had also visited. Because changes in China were slow until 1992 when I left China for Canada, Alan’s 1979 photos, in particular those taken in Beijing and Qingdao, are very touching to me. As Jennifer Mudge (Hackett) wrote to me: “It is truly amazing the coincidences that happen sometimes.” This collection of photos is very precious for me and some of my friends. I would thank Bill Li for putting time on this.



Selected pictures from the Bill Li travelogue: Far left: Alan at the Great Wall; left and below photos from Qingdao.

## BIO Today

# Updated surficial geology compilation of the Scotian Shelf bioregion, offshore Nova Scotia and New Brunswick, Canada

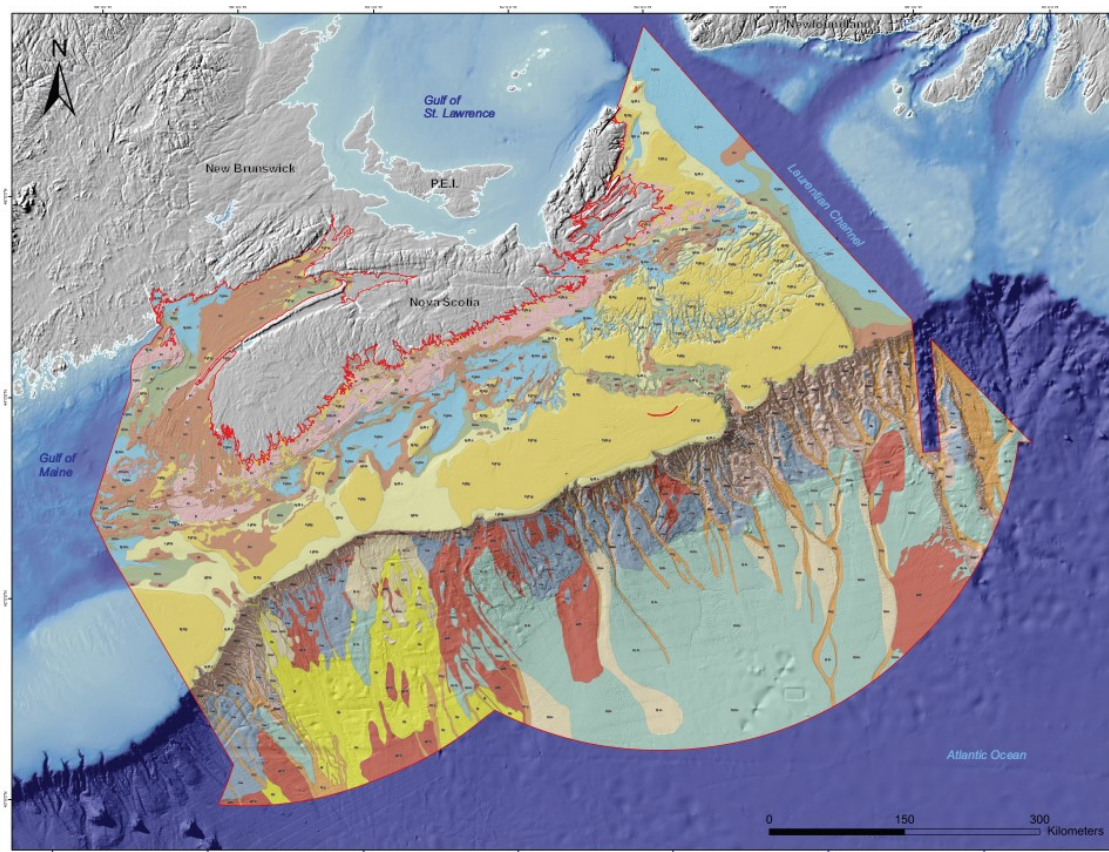
G. Philibert, B.J. Todd, D.C. Campbell, E.L. King, A. Normandeau, S.E. Hayward, E.R. Patton, and L. Campbell

GEOLOGICAL SURVEY OF CANADA OPEN FILE 8911 (revised) 2024

This report presents the surficial geology of the Scotian Shelf Bioregion (SSB). The Scotian Shelf surficial geology had been interpreted in the past over the shallower portions of the bioregion (King, 1970; Maclean and King, 1971; Drapeau and King, 1972; Fader *et al.*, 1977; Fader *et al.*, 1978; Fader *et al.*, 1982) as well as on the slope (Piper, 1991). Since these early maps were produced, more recent and higher resolution hydroacoustic data have been acquired. Therefore, the main objective of the present study is to update the existing surficial geology over the entire SSB, both shelf and slope, using new available maps and data sets. This report constitutes a review of all existing publically-available data sets and associated studies that provide information on surficial geology within the bioregion and describes how previous maps and recent data were amalgamated to produce a new updated version of the surficial geology within the SSB.

Specifically, the objectives of this study are to:

- Compile all available studies that have interpreted and mapped the surficial geology of the seafloor within the SSB;
- Compile available geoscience data that provide more recent and higher resolution information on the surficial geology and geomorphology of the seafloor within the SSB. These data include bathymetry, backscatter strength, sidescan sonar and sub-bottom;
- Update the early maps using the more recent and higher resolution maps and hydroacoustic data and standardize the information at a regional scale;
- Create a descriptive surficial geology legend that is uniform and consistent among all the different maps assembled as well as from one bioregion to another using a geoscientific language that meets the needs of all stakeholders.



The map portion of the large poster included in the Open File. The poster also includes a detailed legend.



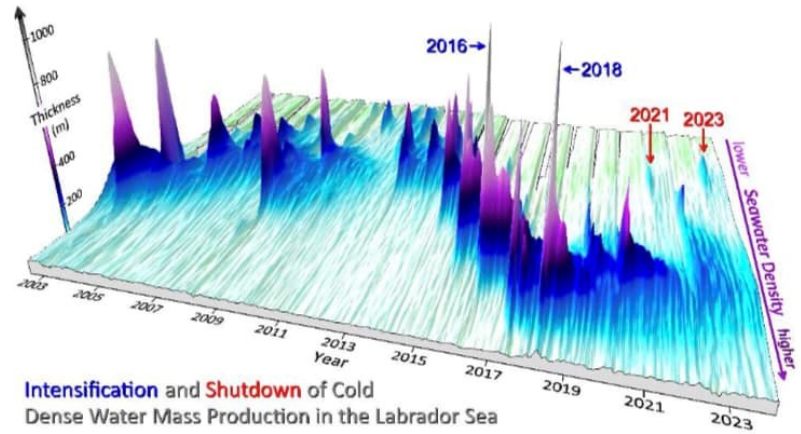
**BIO Today**

**Intensification and Shutdown of Deep Convection in the Labrador Sea were caused by changes in atmospheric and freshwater dynamics**

Igor Yashayaev

(taken from the abstract of 1 March 2024 seminar presentation in the Ecosystems and Ocean Sciences Seminar Series)

High-quality full-depth temperature, salinity and oxygen measurements, collected in the Labrador Sea by the Bedford Institute of Oceanography exclusively during 1990-2019, for the World Ocean Circulation Experiment (1990-2002), and Deep-Ocean Observation and Research Synthesis, allowed us to document long-term conditions, interannual variability and ocean-scale spreading of all locally-formed and transiting water masses. The regional and disciplinary scopes of our research has expanded since then, comprising all available in-situ and remote-sensing variables, bringing highly effective outcome at substantially reduced cost and carbon footprint. Our ongoing studies include seasonal and interannual heat and freshwater dynamics, convection, water mass production, transformation and spreading, atmospheric gas uptake biological productivity, and their predictability. In 1 March 2024 seminar presentation, focused on



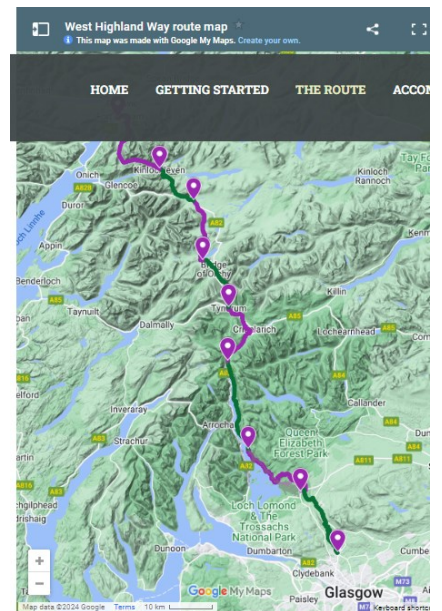
winter convection forming Labrador Sea Water (LSW), that spreads across the deep ocean, he discussed multi-year cycles of intensification/deepening and relaxation/shoaling of convective mixing, shaping the atmospheric free gas uptake. Four main statements about the recent oceanographic development in the Labrador Sea:

- (1) The highest winter cooling since the mid-1990s was in 2015, while the deepest convection of the 2012-2023 convective cycle was in 2018 {Why?};
- (2-3) Convection weakened in 2021 and 2023, rapidly shoaling by 800 m/year in each case {Why in 2021? Why in 2023?};
- (4) Arctic Amplification and, thereby, Global Warming have finally arrived in the Labrador Sea {Totally different from our past claims, so, how can we prove it?}.



**BIO-OA’s favourite trekker is walking in Scotland**

Peter Wells, famous for his stories of walking in the UK is on the trail in Scotland. The West Highland Way stretches 96 miles (154 Km) from Milngavie to Fort William, taking in a huge variety of scenery along the way, from countryside parks to loch-shores and open moorlands to steep mountains. Peter promised a future VP article about his trek in Scotland.



Contains OS data © Crown copyright and database right 2017. This map is not intended for navigation purposes.



Volcano eruption at Sundhnúkur. Photo taken 10 April 2024 by Jón Bjarni Friðriksson/IMO.

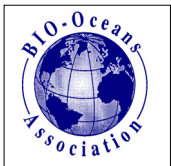
## Mid Atlantic Ridge Update

Following on the VP #94 articles on the Mid Atlantic Ridge the following update is taken from the Iceland Met Office update of 26 April 2024.

“The eruption at Sundhnúkur continues with one crater, just east of Sundhnúkur, ... Part of the lava field near the barrier east of Grindavík continues to thicken slowly.

- Ground uplift in the Svartsengi area continues at constant rate.

- As long as the magma continues accumulating in the Svartsengi reservoir, the likelihood for a significant escalation in the eruptive activity in Sundhnúk crater row increases.”



## ABOUT THE BIO-OCEANS ASSOCIATION

The Bedford Institute of Oceanography Oceans Association (BIO-OA) was established in 1998 to foster the continued fellowship of its members; to help preserve, in cooperation with the Institute's managers and staff, BIO's history and spirit; and to support

efforts to increase public understanding of the oceans and ocean science. Membership is open to all those who share our objectives. Most current members are present or past employees of BIO or of the federal departments of Environment, Fisheries and Oceans,

and Natural Resources (or their predecessors) located in the Halifax Regional Municipality. Membership is \$10.00 per year, \$40.00 for five years, or \$150.00 for a lifetime membership.

### OFFICERS AND DIRECTORS

PRESIDENT  
VICE-PRESIDENT / PRESIDENT-ELECT  
VICE-PRESIDENT  
PAST PRESIDENT  
SECRETARY  
TREASURER  
MEMBERSHIP

Patrick Potter  
Vacant  
Chris Jauer  
Andrew Sherin  
David McKeown  
Lori Collins  
Jennifer Mudge

### DIRECTORS AT LARGE:

Steve Blasco  
Pierre Clement  
Don Gordon  
Timothy Lambert  
Michel Therrien  
Alice Gilson

### COMMUNICATIONS: NEWSLETTER, PR, AND WEB SITE

NEWSLETTER EDITOR (INTERIM)  
WEBMASTER

Andrew Sherin  
Jasmine Hayden

oanewslettereditor@gmail.com

BELUGA AWARD  
BIO ARCHIVES  
OUTREACH  
EVENT COORDINATOR

### COMMITTEES / WORKING GROUPS: CHAIRS

Jenna Higgins  
Don Gordon  
Vacant  
Vacant

NSIS LIAISON Peter Wells  
TITANIC SOCIETY LIAISON Steve Blasco

### PAST PRESIDENTS

Robert Reiniger (1998-2000), Dale Buckley (2000-02), David Nettleship (2002-04), Donald Peer (2004-06), Betty Sutherland (2006-08 and 2010-11), Bob O'Boyle (2008-10), Paul Keizer (2011-13), Mike Hughes (2013-15), Michael Murphy (2015-17), Claudia Currie (2017-18), Andrew Sherin (2019-22)

Association Mailing address: Bedford Institute of Oceanography, P.O. Box 1006, Dartmouth, NS B2Y 4A2.  
*VoicePipe* mailing address: c/o Andy Sherin, 9 Rose Street, Dartmouth, NS B3A 2T4.