

Polar Educators International

Annual Report 2012-2013



A vibrant network promoting polar education and research to a global community.

Photo by Amber Lancaster
(PolarTREC 2012), Courtesy of ARCUS

Opening Remarks

The steering committee, executive committee, and council of Polar Educators International welcomes you to participate in one of the fastest growing international organizations focused on the polar regions.

This report covers the details on the formation of our organization from the perspective of the steering committee operating from April 2012 through late winter of 2013. There is also news reported on the work done by the elected executive committee and inaugural council.

Many achievements have come in the first year of the organization. We are most proud of our relationships built within the polar science and education arena. This includes endorsements and understandings listed within the report.

We hope that you are able to get a sense of the professional network built by educators, scientists, and community members around the central theme of accurate and effective polar science outreach. At this time, it is crucial to establish clear lines of communication in polar science with students, teachers, and communities within and beyond the Arctic and Antarctic. Please consider joining Polar Educators International.

Contact us at polareducators@gmail.com

Sarah Bartholow, M.Ed.

Steering Committee 2012/Executive Committee 2013

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Photo by Nell Herrmann
(PolarTREC 2012), Courtesy of ARCUS

Current PEI News

Executive Committee Meeting

Executive Committee (ExCom) members, Sarah Bartholow, Louise Huffman, Heidi Roop, and Gary Wesche met for a 3-day June meeting in Colorado (USA). The ExCom met to review progress of the steering committee and to bring together all of the goals and dreams of the organization. Progress was made on big ideas and concepts for the organization, based on member feedback and steering committee efforts. Special thanks to Dave Carlson for his efforts to arrange the meeting logistics, local polar community hosts for lodging, National Snow and Ice Data Center for meeting space, the Arctic Research Consortium of the US for flights, and to those attending the Monday evening reception to learn more about PEI.

Mission and Vision

Many hours were spent looking at the goals and objectives of our organization. The mission is crafted as a statement of what we can accomplish through PEI. The vision looks towards the future of PEI success. Statements were drafted by council, reviewed by executive committee, and then voted on during July

2013.

Mission: *A vibrant network promoting polar education and research to a global community.*

Vision: *Polar Educators International is a vital international network of educators and researchers aiming to provide a deeper understanding of current polar science. PEI represents trusted leaders working to inspire appreciation and knowledge of the polar regions, their connectedness to all Earth's systems, and importance to all humans across latitudes and cultures.*

Strategic Plan

Council adopted the first strategic plan for PEI in June 2013. A special thanks goes out to steering committee member Joanna Hubbard and the strategic plan working group for an incredible 'living' document that outlines the steps we must take to meet our mission. Goals of the plan focus on:

- a robust network of regional committees,
- providing and promoting professional development for both the education and science communities
- developing relationships with partner organizations

- launching and maintaining the website
- branding and marketing

Working Groups were developed to carry out the steps listed in the strategic plan. If you are interested in getting involved email polareducators@gmail.com

Partnerships

Association of Polar Early Career Scientists (APECS)

In the spring of 2013, a memorandum of understanding (MoU) between the Association of Polar Early Career Scientists (APECS) and Polar Educators International (PEI) was signed by APECS Director Alexey Pavlov and the PEI Executive Committee and will stand through December of 2015. The MoU is based on the mutual interest of APECS and PEI in engaging, supporting and promoting polar science education, outreach, and communication (EOC). Through this agreement, the APECS Executive Committee and the PEI Council will strive to identify and collaborate on mutually beneficial activities towards strengthening that interest.



International Arctic Science Committee (IASC)

Polar Educators International (PEI) is pleased to announce an endorsement from the International Arctic Science Committee (IASC). The IASC endorsement recognizes the partnership with PEI as a valuable asset confirming the legitimacy and its capacity to become a leading organization for polar science education. PEI can add to the IASC goal of “promoting and involving the next generation of scientists working in the Arctic”, as well as sharing research outcomes with a broad public audience in order to “close the gap between science and society”. With the endorsement from IASC, PEI can continue to build momentum for their organization with the support of this esteemed group of colleagues in the polar science community.



Scientific Committee on Antarctic Research (SCAR)

As a growing global network promoting education in, for, and about the polar regions, PEI represents a leading organization capable of fulfilling goals aligned with SCAR's education and outreach plans. SCAR endorsement of PEI will prove mutually beneficial. SCAR will gain enhanced recognition within a global education community while PEI will gain important connections to SCAR member countries and member institutions and a strong message of legitimacy as an emerging organization for polar education. Together, SCAR and PEI will enhance their international impact and their ability to draw global attention to Antarctic science.



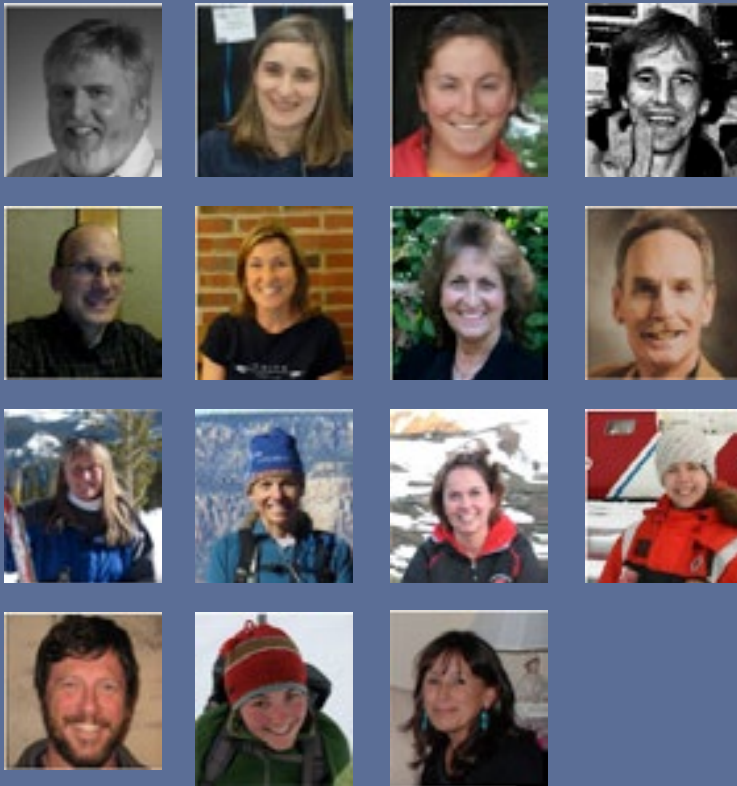
“I am pleased to be a part of today’s announcement of the establishment of a formal international professional network of polar educators teaching in, about and for the polar regions. I regard this as a very positive action emerging from the conference, another contribution to the legacy of IPY and the future of polar research. This is an extraordinary example of cooperation and partnership building to keep the momentum generated during IPY”

27 April 2012.

Peter Harrison
Chair of the IPY 2012
Montreal Conference.

“I proudly witnessed the launch of the first seed at IPY Oslo and participated in PEI flourishing at IPY Montreal. This is a project in which I believe deeply and I want to see grow and assert itself within the polar sciences. This is the time where I can contribute more actively and closely in the growth and the next steps as I help shape the future success.”

Patricia Azinhaga
Portugal



Polar Educators International Inaugural Council

Alec Aitken (Canada)
 Patricia Azinhaga (Portugal)
 Sarah Bartholow (US),
 Matteo Cattadori (Italy)
 Mark Goldner (US)
 Nell Herrmann (US)
 Louise Huffman (US)
 John Wood (US)
 Betty Trummel (US)
 Betsy Wilkening (US)
 Susan Tate (US)
 Christie Wood (US)
 Gary Wesche (US)
 Heidi Roop (US/NZ)
 Julia Dooley (US)

Meet the 2013 Council

In early 2013, the steering committee drafted a rules of procedure that outlines how PEI will operate at the basic functional level. This involves electing representation. 16 Council members were elected to serve a one year term. Council members are responsible for Council members have the right and responsibility to share information on their organizational and research/education area's activities with PEI members on a regular basis. Additionally, many take on additional roles, such as the working groups. Four council members were elected to the Executive Committee to oversee the direction of PEI.

The photos above show our council members.

Here are short bios of the executive committee:

Sarah Bartholow (Alaska, USA) is a science educator and project manager at the Arctic Research Consortium of the United States. Sarah has taught K-12 science and environmental education. She served on the PEI steering committee.

Heidi Roop (Wellington, New Zealand) is a doctoral student at the Antarctic Research Centre at Victoria University of Wellington in New Zealand. Her current research focuses on reconstructing past climate using laminated lake sediments.

Louise Huffman (Illinois, USA) is the Coordinator of Education and Outreach for ANDRILL, (ANTarctic geological DRILLing). In 2003, Louise was a teacher-researcher in Antarctica with NSF's Teachers Experiencing Antarctica program. She served as the chair of the formal education subcommittee of the international IPY EOC, 2006-2009.

Gary Wesche (Missouri, USA) has taught in formal and informal education programs. He taught elementary, middle school and university levels as well as in the EarthWorks program, Blue River Watershed Association project, and the Kansas City Zoo.

You can contact the council and executive committee at polareducators@gmail.com.



Photo by Alex Eilers
(PolarTREC 2012), Courtesy of ARCUS

MEMBER VOICES

“It will be a great challenge to know and understand the whole process wrapped in the organization and be able to give my contribution to shape the future of PEI. A future with well-developed roots that will launch many seeds. Let us spread inspiration and passion for polar sciences!”

“I consider the current state of our climate and the alarming changes happening in the Arctic and Antarctic as a call to action. Participating in the PEI Council is a way I can help promote action on climate through education.”

“Many young scientists have mastered methods of sharing their research with others in their field but often struggle when trying to communicate their work to the general public, decision makers and students. This is essential for the greater impact of their research and many early career polar researchers are interested in getting involved in broader communication of their work and the importance of the Polar Regions.”

Activities of the Steering Committee

After the first official meeting of PEI, the steering committee went straight to work developing a structure for the organization. They followed models of successful professional networks and added unique components. Thanks to all who allowed PEI to consult on best practices for organizational structure.

One of the exceptional additions is that the committee created a Global Advisors Group. This team of advisors is tasked with ensuring that PEI maintains a global philosophy of inclusivity and multi-lingual approach. The aim is to create a global impact audit to evaluate the organization on a regular basis. The first Global Advisors (GA) are:

- **Miriam Almeida (Brazil)** High School teacher,
- **Matteo Cattadori (Italy)** Project Coordinator for polar and non-polar at MUSE Museum of Sciences
- **Sandra Zicus (Australia)**, PhD Geography and work on polar science communications.
- **Inga May (Germany)** PhD Permafrost Scientist and APECS member
- **Kiran Bhandari (India)** Founder of Catalyze

In addition to global advisors, PEI recognizes the years of experience that many of the members can offer. The steering committee worked closely with Focus Advisors on issues of funding, planning, and partnerships. The council will continue these mentoring relationships.



We are proud to announce that the Arctic Research Consortium of the United States (ARCUS) has signed on as the first secretariat for PEI. The secretariat acts as the host institution for our organization as we grow and evolve. At this time, ARCUS will continue to offer staff time and in-kind support for PEI, as well as consultation in our formative process.

A Rules of Procedure was established. The rules are adapted and edited to fit the needs of a growing organization and intended to provide a framework for initial PEI activities and governance. One of our intentions is that the ROP can be modified through due process in order to respond to the changing needs, composition and activities of an evolving PEI.

Following rules of procedure, a council election was hosted in February 2013. The inaugural council of 16 teachers and researchers are now working on various projects to forward the organization. Nominations from council created our first Executive Committee.

Reaching the Membership

In July-August, 2012 a PEI member survey has been spread to google contacts and published on Facebook to get feedback from members and other interested parties on the important priorities for PEI and to help develop plan future direction.

The PEI membership survey was conducted gather initial member feedback. The results informed the global philosophy, mission, and vision of the current organization. Results for the inital 50 results are available in English. The goal of this diagram was to simplify and visualize results.



Building the Network

A very important component of our network will be our website that is accessible to all members. Sophie Weeks (UK) and Betsy Wilkening (USA) have spent countless hours drafting outlines and a 3-5 year plan on website functionality. The main purpose of the site is the ability to connect members to one another - the professional network between teachers and researcher is the most important resource that PEI can offer the polar community. The Norwegian organization Climate and Cryosphere (CliC) has offered inkind support in the form of website development to turn our ideas into action. You can learn more about CliC on their website: <http://www.climate-cryosphere.org/>. Watch for news on the website launch on our email list and facebook page.



Speaking of Facebook, if you have not joined the group Polar Educators International, it is time! With 400+ members sharing relevant polar content knowledge as well as enthusiasm, events, and teaching practices, this facebook group has become an incredible resource

in and of itself. Thanks to all who contribute to our powerful social media network.

Our social networking tools are connecting our membership through Twitter as well. PEI or PolarEducators offers polar connect knowledge, event information, and photos from our membership.

Next steps include expanding the network of partner organizations to encompass a most international scope of science and education professional groups.

Events and Meetings

PEI partnered with APECS to create a professional development webinar for educators and researchers on effective outreach to classrooms during the fall 2012 International Polar Week (IPW). PEI members Julia Dooley, Brandon Gillette, Linda Lamoureux, and Janet Nadeau facilitated the event.

In solicitation for the IPW flagship activity, PEI members contributed many activities and resources in multiple languages. These resources are available through the PolarTREC Learning Resources Collection (www.polartrec.com). The chosen flagship activity, *Flakes, Blobs, and Bubbles: An Ice Core Art Project* was translated into twenty-one different languages, gathered 1,600 submissions of ice-core art, and is the basis for globally crowd-sourced ice core visualizations. Individual art, mosaics, and related resources can be viewed at icecoreart.weebly.com.



PEI partnered with Our Spaces (UK) in December 2012 for Antarctica Day celebrations to promote knowledge on the Antarctic Treaty and unique aspects of international collaboration. On 1



December, PEI announced the release of their short film showcasing the importance of the Antarctica Treaty signed on 1 December 1959. The film can be shared through the Polar Educators International YouTube channel: <http://youtu.be/VopOFNxxwUGg>; 272 Views in 24 hours. Thank you to the planning committee - Julia Dooley (US), Lynn Foshee Reed (US), Patricia Azinhaga (Portugal), John Wood (US).

At the American Geophysical Union (California, USA) meeting in December 2012 PEI hosted *Polar Science Outreach: Moving Forward*, a joint meeting of PEI and the Association of Polar Early Career Scientists. In a one hour meeting, teachers, program managers, and scientists dedicated to polar science education and outreach discussed how to effectively bridge connections between various organizations with similar E&O visions.



APECS Education and Outreach Committee (EOC) past-chair, Heidi Roop, presented on the goals for outreach for an organization whose membership is predominantly scientists. Polar Educators International (PEI) Steering Committee member, Sarah Bartholow, presented on the brief history of the new organization, its vision for effective outreach, and posed discussion questions for the group. The two organizations identified areas of partnership, followed by a social event for networking.

Exploring New Ways to Learn About Our World

Polar Educators International is a global network of teaching professionals, working to expand knowledge on polar science and our planet, and inspiring collaboration and action throughout the world.

As polar sciences cover multiple disciplines, they can't easily fit into a wide range of school curriculum topics. Polar science educators employ a holistic approach that brings together physics, chemistry, earth science, biology and other sciences to engage students and strengthen their understanding of the world of today - and the future.

www.polareducator.org

PEI EVENTS

September 2012: International Polar Week

December 2012: Polar Science Outreach side meeting, and Exploration Station (US)

December 2012: Antarctica Day

March 2013: Education Meets Science side meeting (Portugal)

April 2013: National Science Teachers Association side meeting (US)

May 2013: Antarctic Treaty Commission Meeting (Belgium)

June 2013: ExCom Meeting (US)

Additionally, many PEI members participated in the public outreach event *Exploration Station* to promote the Flakes, Blobs, and Bubbles: An Ice Core Art Project with participants young and old.

Also at AGU, PEI contributed to the town hall meeting on the International Polar Initiative (IPI) a program to be launched as a successor of IPY starting in 2016. The IPI would facilitate the development of observing systems, research networks, and related education and outreach. Like the IPY, the IPI would seek to optimize the use of existing resources, and identify areas where

new investments in polar activities are necessary for environmental protection and sustainable development.



In March 2013, The International workshop *Education Meets Science: Bringing Polar Research into the Classrooms*, was organized by the Institute of Marine Research of the University of Coimbra (Portugal), the Alfred Wegener Institute (Germany) and the British Antarctic Survey (UK), with the Museum of Science of the University of Coimbra and the national Agency Ciência Viva. This was the first workshop that brought polar scientists, teachers and educators together after IPY Montreal 2012. It focused on providing access to tools for teachers and facilitating working together with polar scientists.



On the first lunch break, PEI was introduced to all participants by Sandra Vanhove (Belgium) and a brainstorming session was carried out on the second day on “next steps for PEI”. Here are some of the results:

- PEI must strive to be the premier polar education authority
- PEI must get mentors onboard, to provide strong guidance and build bridges between organizations at the highest level
- PEI must have a strategic view of links with other organization.
- PEI must establish simple, and achievable goals, in the short-term with a long-term vision.
- PEI must assess how to attract more polar scientists into education and outreach, by helping scientists in establishing research projects with a strong educational components
- Search for funds to coordinate PEI at an international level and activities.

The first PEI social event was hosted at the US National Science Teachers Association meeting in April 2013. Current members were able to reconnect and discuss plans of bringing polar science to the classroom and new members joined our growing organization.



The Antarctic Treaty Commission meeting was held in Belgium in May 2013. As a support to PEI, the International Polar Foundation generously donated the time and effort of their team to create an outstanding poster for the event. IPF has supported PEI from the beginning and we hope to continue collaboration with them.



Steering Committee: A Final Reflection

April 2012 was an extraordinary month! It was a privilege to represent the UK's Scott Polar Research Institute at the Polar Educators Workshop, IPY Montreal 2012 and then an unexpected honour to be elected to the very first steering committee of Polar Educators International.

It's impossible to convey how exciting it is to be at the birth of something so exciting, working collaboratively with polar educators from around the world to build a way of uniting, exchanging expertise and sharing the message of how important polar education is. The passion of my polar colleagues was infectious and each wobbly step we took working in partnership - usually on phone-lines at unearthly hours or magically uniting via google-docs and on-line meetings - felt like confirmation that people who are based poles apart can work together to achieve something bigger and more lasting than any one individual, organisation or nation.

From the beginning everyone agreed that educators hold the key to forming a partnership between polar education, polar science and wider forms of polar research - and the infant PEI was, and continues to be, supported on all sides. As PEI grows through its members, I wish the newly elected committees well and look forward to our next adventures together. Once a polar educator - always a polar educator!

Sophie Weeks - Creative Educator - Museums and Galleries

On behalf of the Polar Educators International Steering Committee 2012



A global professional network for those who educate in, for, and about the polar regions.

This early statement was drafted by a group of 80 educators and researchers in Montreal as the early definition of Polar Educators International. Many translated these words to resonate worldwide. With the hard work of many volunteers, we have refined our mission, vision, goals, and plans with the efforts of our many dedicated volunteers. Thank you to everyone around the globe who contributed to the creation of Polar Educators International.

Глобальная профессиональная сеть для тех, кто обучает и изучает полярные регионы.
- Russian

Een wereldwijd professioneel netwerk, voor hen die lesgeven in, voor en over de poolregio's.
- Dutch

Una xarxa global de professionals per a aquells que eduquen en, per a i en relació a les regions polars.
- Català

Ett globalt professionellt nätverk för dem som utbildar i, för och om polarregionerna.
- Swedish

Ein globales professionelles Netzwerk für diejenigen, die Wissen für und über die Polregionen vermitteln.
- German

Una rete globale per chi vuole educare allo studio delle regioni polari.
- Italian

Una red mundial de profesionales para aquellos que educan en, para y sobre las regiones polares.
- Castellano

Et verdensomspennende profesjonelt nettverk for dem som utdanner seg i, for og om polområdene.
- Norwegian

Uma rede global de profissionais para aqueles que educam sobre, para e nas regiões polares.
- Portuguese

Un réseau mondial de professionnels pour ceux qui éduquent dans, pour et à propos des régions polaires.
- French

Ένα παγκόσμιο επαγγελματικό δίκτυο για εκείνους που διδάσκουν και διδάσκονται για τις πολικές περιοχές.
- Greek

Globalny i profesjonalny portal społecznościowy dla tych, którzy uczą i interesują się regionami polarnymi.
- Polish