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Report of the activities of Polar Educators International (PEI): 2012-2022

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Summary

Since its foundation in 2012, Polar Educators International (PEI) has grown into a network for polar education practice. To date, more than 3000 PEI members from 43 countries have collaborated with researchers to share their polar knowledge and expertise, connecting polar education, research and the global community. The PEI Executive Committee and Council provide a leadership platform for polar scientists and educators who are passionate about promoting the educational value of Antarctica and Antarctic research (in its widest aspects) to many diverse sectors of society. PEI has the support from various organisations (including formal endorsements from SCAR, IASC, ARCUS, APECS) engaged in numerous educational activities (e.g. "Polar Resource Book", PEI international Workshops, polar science/educational projects). PEI advocates polar literacy and environmental stewardship for international processes and aims to continue fostering international cooperation of teachers around the world on polar education.

Introduction

Education and outreach on the value and importance of Antarctic science with the governance objectives of the Antarctic Treaty are imperative. Teachers and educators can provide a crucial link in transferring knowledge from the scientific community both to the academic community and the general public. Education is now a regular agenda item for the Antarctic Treaty Consultative Meetings (ATCM) since 2015, with considerable effort from Parties, Observers and Experts who engaged in the Workshop on education and outreach at the ATCM in Bulgaria (2015; ATCM XXXVII/WP009), followed by the establishment of an Intersessional Contact Group on Education and Outreach that has demonstrated an increased interest in education and outreach activities within ATCM (ATCM XXXIX/WP24, ATCM XL/WP24, ATCM XLII/WP33, ATCM XLIII/WP15, ATCM XLIV/WP23). This report aims to review the work carried out by PEI since its creation in 2012, following the previous report of its work (e.g. ATCM XXXVII/IP2; ATCM XLII/IP95; ATCM XLIII/IP32).

The mission and objectives of Polar Educators International

PEI is a professional network for polar educators, created at the International Polar Year 2007-08 (IPY) conference in 2012 (Montreal, Canada). The ongoing legacy of IPY Education Outreach and Communication is most clearly evidenced in the ongoing activities and process of maturation of APECS, PYRN and PEI (Hindshaw *et al.* 2018, Tanski *et al.* 2019, Roop *et al.* 2019). PEI is an essential network of educators and researchers with a mission to connect polar education, research and the global community by collaborating to provide a broad audience with a deeper understanding of current polar sciences and the polar regions.

Members of this international network demonstrate respect for diverse cultures and uphold the PEI core values of being welcoming, credible, passionate and dedicated, engaging diverse audiences in understanding the polar regions and their connection to all earth's systems. PEI believes strongly that children and young people have the right to education, and strives to actively welcome all learners equally, addressing the needs of hard-to-reach audiences, and supporting the needs of individuals and communities discriminated against on the basis of their gender, sexual orientation, age, culture, beliefs, disabilities, or social and economic situation.

IP 36

PEI similarly does not discriminate against its members on the same basis, supporting actions on equity, diversity and inclusion.

PEI has formal endorsement from the Scientific Committee on Antarctic Research (SCAR) and the International Arctic Science Council (IASC), and a close partnership with the Association of Polar Early Career Scientists (APECS) and the Arctic Research Consortium of the United States (ARCUS). Less formal partnerships include Students on Ice (SOI), PolarTREC and INTERACT. PEI has many members and partners that are involved in Antarctic Treaty countries. Currently PEI has over 3000 members from 43 countries, 24 of which are Antarctic Treaty Contracting Parties (Argentina, Australia, Belgium, Brazil, Chile, Czech Republic, Finland, France, Germany, India, Italy, Japan, New Zealand, The Netherlands, Norway, Peru, Poland, Portugal, Russia, South Africa, Spain, United Kingdom, Uruguay, and the United States of America).

Now celebrating over ten years of activity (since ATCM 15 IP 002 10/03/2014), PEI has grown in visibility and importance through its activities including Six international conferences and educator workshops (Coimbra, Portugal; Hanover, Germany; Rovereto, Italy; Cambridge, UK; Höfn, Iceland), PEI Master Classes for polar educators (led by science-education partnerships) both available via the PEI website https://polareducator.org/), multiple PEI papers delivered by active members at international polar science conferences (e.g. AGU, ASSW, EGU and SCAR Open Science Meetings), Policy level representation (COP26, Glasgow (press conference "Polar Education and Climate Change", Pre-COP, Milan, Italy, September 2021, Arctic Science Ministerial Meeting (ASM3), and currently, the ICARP IV process). With the urgent need to inform the next generation of leaders and engage them in positive action to mitigate anthropogenic climate forcing, the goal is to take education and science communication 'UPSTREAM' in the polar research process (see https://youtu.be/Gtf0sqShkZs), sharing important research more directly, in accessible formats, exactly where it is needed. Members connect and interact via PEI social media platforms (FaceBook, Instagram and Twitter) and in person at polar education workshops. As an example, between 2020-2022, throughout the COVID pandemic, 17 volunteer PEI Council members reached out to over 11,000 adults and 4500 young people through 45 online activities focused specifically on the polar regions, and provided a crucial international support network for teachers.

PEI is highly involved in updating the IPY publication *Polar Science and Global Climate: An International Resource for Education and Outreach* (Kaiser *et al.* 2010), known as the "Polar Resource Book" (PRB). Currently a collaboration with APECS, SCAR and IASC, the aim is to create a professional, co-produced, open access resource to connect, inspire and support educators, science communicators, students and emerging polar researchers with a shared commitment to outreach and education. There are plans to expand the network of contributing partners, in preparation for IPY 2032-2033.

Future plans

Following the legacy of the last IPY, when many Contracting Parties carried out numerous education initiatives (ATCM 15 IP 002 10/03/2014), PEI continues to advocate for the inclusion of education at all levels as a fundamental part of planning for the future of the Antarctic in the lead up to IPY 2032-33 and engage ATCMs in discussion of potential future objectives for education and outreach, based on the urgent need of polar educators and the wider polar community. PEI shares the goal of a society that is informed about important global issues and the role that Antarctica plays in life-supporting Earth Systems (Xavier *et al.* 2019a, b), connecting polar education, science and communities through collaboration (PRB project), advocacy (SCAR CBET (Capacity Building, Education and Training), ASSW and ICARP IV), and regular, international, educator-led initiatives (PEI2025-Boulder, Colorado).

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