

Research Note

Cite this article: Xavier JC, Mateev D, Capper L, Wilmotte A, and Walton DWH (2019). Education and outreach by the Antarctic Treaty Parties, Observers and Experts under the framework of the Antarctic Treaty Consultative Meetings. *Polar Record* 55: 241–244. <https://doi.org/10.1017/S003224741800044X>


Received: 29 November 2017
Revised: 27 September 2018
Accepted: 2 October 2018
First published online: 18 December 2018

Keywords:

Antarctic Treaty System; communication; education; International Polar Year; outreach

Author for correspondence: José C. Xavier,
Email: jccx@cantab.net

Education and outreach by the Antarctic Treaty Parties, Observers and Experts under the framework of the Antarctic Treaty Consultative Meetings

José C. Xavier^{1,2} , Dragomir Mateev³, Linda Capper², Annick Wilmotte⁴ and David W. H. Walton²

¹Marine and Environmental Research Centre (MARE), Department of Life Sciences, University of Coimbra, Coimbra, Portugal; ²British Antarctic Survey, Natural Environment Research Council, Cambridge, UK; ³Bulgarian Antarctic Institute, Sofia, Bulgaria and ⁴InBios-Centre for Protein Engineering, University of Liege, Liege, Belgium

Abstract

The development of formal discourse about education and outreach within the Antarctic Treaty Consultative Meetings (ATCM), and the influence of major international activities in this field, are described. This study reflects on the ATCM Parties' approach to implementing the ambition of the Protocol on Environmental Protection to the Antarctic Treaty Article 6.1.a, to promote the educational value of Antarctica and its environment, and examines the role of workshops and expert groups within the Scientific Committee on Antarctic Research (SCAR), the International Union for the Conservation of Nature (IUCN), and the Council of Managers of National Antarctic Programmes. These early initiatives, which emerged in the 1990s, were a prelude to the development and implementation of a large number of International Polar Year (IPY) education and outreach programmes. The establishment of an Antarctic Treaty System Intersessional Contact Group, and an online forum on education and outreach during the 2015 ATCM in Bulgaria, is a legacy of IPY and is the next step in fostering collaboration to engage people around the world in the importance and relevance of Antarctica to our daily lives.

Introduction

The Antarctic Treaty is considered by many to be one of the most successful treaties of all time (Berkman, Lang, Walton, & Young, 2011; Walton, 2013). However, its original articles make no mention of any responsibility to inform the public about the activities on the continent, and the reports published after the Antarctic Treaty Consultative Meetings (ATCM) were limited for the first 20 years to agreed legal actions and the papers were marked confidential. By 1985, Treaty Parties had become conscious that there was a growing public interest in Antarctica, fuelled both by tourism and the minerals negotiations. This precipitated the decision to admit Observers and Experts to the meetings and to make the Treaty papers publicly available after each meeting.

This article considers some of the most relevant activities aiming to provide impartial information and knowledge about Antarctica and ATCM to different audiences, both national and international, including school children, university students, the general public, policy makers and politicians (Kaiser, Zicus, & Allen, 2010). So how has the responsibility for education and outreach on Antarctic activities developed since the Antarctic Treaty came into force?

Within the frame of the ATCMs, there was little discussion on education and outreach prior to the 1990s. Following the signing in 1991 of the Protocol on Environmental Protection to the Antarctic Treaty, the Scientific Committee on Antarctic Research (SCAR) recognised that education was still under-appreciated by many of the Treaty Parties. Initiatives introduced to address this issue include a workshop by SCAR and the International Union for Conservation of Nature (IUCN) in 1993 (Dingwall & Walton, 1996), the creation of an expert group within COMNAP (Council of Managers of National Antarctic Programmes) in 1998 (Capper, 2013), the introduction of the SCAR fellowship scheme and the establishment of the SCAR capacity building, education and training advisory group in 2002, leading up to the International Polar Year (IPY) 2007–2008. During the IPY, the fields of polar education, outreach and communication were more developed than in previous IPYs (Baeseman, Xavier, Lantuit, & Taylor, 2011; Kaiser et al., 2010).

Overall, progress in education and outreach has been slow within ATCMs (Dingwall & Walton, 1996; Walton, 2013) despite some Parties having a proactive policy and good engagement with both educational systems and the media (Capper, Dinar, & Allen, 2006). In this work, the main aims were to (1) provide an insight into the increased interest in education and outreach activities within ATCM Parties, Observers and Experts, (2) identify the most relevant issues, and (3) discuss potential future objectives for education and outreach within ATCMs.

Setting the scene: the 1993 workshop on Antarctic environmental education and training

A workshop convened in 1993 by SCAR and IUCN examined opportunities for enhancing Antarctic environmental education and training amongst Parties of the ATCM (Dingwall & Walton, 1996). After a first mention of ‘environmental education and training’ in the agenda of XIX ATCM in 1995 as part of the Tourism topic, subsequent ATCM agendas included an item on ‘Education issues’ or ‘Education and training’. Gradually, more papers started to deal with formal activities for children and school pupils, and informal activities for people of all ages. The Committee for Environmental Protection (CEP) to the Antarctic Treaty, established in 1998, did not initially include discussions on education and outreach. It was considered a low priority (4 on a scale of 1 to 5) until 2013, when several actions were listed and the priority was raised to 2 (SAT, 2013).

The widespread use of the internet allowed communication and education professionals within some national Antarctic programmes to take advantage of new opportunities to share a wealth of experience, expertise, information and online resources (Capper, 2013; Xavier, Fugmann, Beck, Huffman, & Jensen, 2016). In this context, with the establishment of the Secretariat for the Antarctic Treaty in 2004 a website was developed that provided full online access to all ATCM reports and, more recently, to all papers submitted to all Antarctic Treaty meetings.

The notable increase in online activities within the field of polar education, outreach and communication that was stimulated by IPY also generated a huge range of online resources, interactive activities, global media coverage and public dialogue (Kaiser et al., 2010). The establishment of the Association of Polar Early Career Scientists (APECS) also generated a commitment to public engagement from the science community at unprecedented levels, and numerous activities were organised through all the IPY projects around the world (Kaiser et al., 2010; Provencher et al., 2011). Some Parties (e.g. Australia, New Zealand, UK, USA) have postgraduate programmes in Antarctic science (e.g. Master of Environmental Governance (Oceans, Polar and Climate) at the University of Tasmania, <http://www.utas.edu.au/courses/cse/courses/s7x-master-of-environmental-governance-oceans-polar-and-climate>; National Science Foundation Advanced Biology Training Program, <https://www.usfca.edu/arts-sciences/antarctic-biology-training-program>; Master of Philosophy in Polar Studies at the University of Cambridge, <https://www.graduate.study.cam.ac.uk/courses/directory/eagmpmpms>; Postgraduate Certificate in Antarctic Studies (PCAS) at the University of Canterbury, <http://www.canterbury.ac.nz/study/qualifications-and-courses/postgraduate-certificates-and-diplomas/postgraduate-certificate-in-antarctic-studies/>).

Finally, the role the media plays in engaging many different sectors of society is well recognised by public relations and public affairs professionals within national Antarctic programmes. Various activities were conducted by COMNAP since the 1990s (including workshops before, during and after IPY), in which members shared a common approach to media policies, and sometimes worked together to coordinate visits to Antarctica by international media. Important spinoffs have been an improved relationship between Antarctic scientists and the media (Shukman, 2010), and the role of media as a key driver of public and political dialogue across countries and cultures (Painter, 2011). Moreover, various countries (e.g. Australia, New Zealand, United Kingdom, USA) organise programmes for artists and writers, which take a different approach to how the Antarctic is perceived,

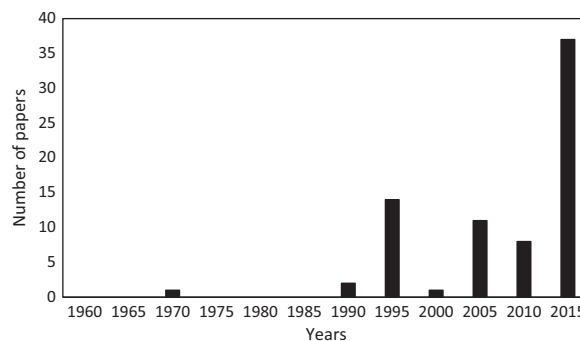


Fig. 1. Number of papers submitted to the Antarctic Treaty Consultative Meetings between 1961 and 2017 (grouped by 5-year clusters; e.g. 1960 = 1960–1964). Data obtained from a search on “education” and/or “outreach” at the documents page of the Antarctic Treaty System website (<http://www.ats.aq/>).

bringing a new public interest to the continent through art, writing, music and design (Barber et al., 2010; Walton, 2013).

Issues most relevant to ATCM

At the ATCM progress has been slow: only 37 papers mentioning ‘education’ or ‘outreach’ were submitted to ATCMs between 1960 and 2014 (Fig. 1). The initial low level of formal record of Parties’ education and outreach activities may simply have been because most delegations were divorced from the education process, and considered education and outreach a low priority. And although it has been common for host countries to make a major outreach effort when they host an ATCM, these efforts do not normally lead to papers being presented in the following ATCM. In 2015–2017 37 papers were submitted (Fig. 1), showing an increased interest in this issue. This was mostly due to the organisation of an education and outreach workshop that was proposed to ATCMXXXVII (Brazil, Belgium, Bulgaria, Portugal, & UK, 2014), following a number of informal information exchanges and discussions at ATCMXXXVI in Belgium amongst members of numerous delegations.

First workshop on education and outreach associated with an ATCM

The first workshop on education and outreach associated with an ATCM was held at ATCM XXXVIII in Bulgaria in 2015, with the main aims of (1) learning more about the education and outreach projects already being undertaken, (2) examining how projects might be linked to maximise return on resources and overall impact, for example through national and international collaborations, and (3) considering how to secure support for a Communication, Engagement and Education Forum as a lasting legacy of the IPY. This workshop brought together science and education communicators from Parties, Observers and Experts, to exchange ideas on mechanisms to improve education and outreach (Bulgaria et al., 2015a, b).

A total of 97 participants from 37 Parties, Observers and Experts attended, with 26 oral presentations, 19 poster presentations and 22 papers. One important outcome was the establishment of an Intersessional Contact Group on Education and Outreach (ATCM ICG E & O) and an ATCM forum in the field of education and outreach. The main aims of the forum were (1) to foster national and international collaboration and support, (2) to develop, encourage and share results of educational and outreach initiatives that promote scientific observations to reinforce

the importance of the Antarctic Treaty and its Protocol on Environmental Protection, and (3) to acknowledge education and outreach activities by expert groups and encourage cooperation with these groups. In the last 2 years, Parties have used this ATCM forum to share information and materials on education and outreach in their countries and organisations. Another outreach activity that takes place at the ATCM is the SCAR lecture, which addresses a policy-relevant topic in Antarctic science.

Main topics and growth of education and outreach activities within ATCMs

It is clear from the work of the ATCM ICG E & O that Parties share a common ambition to engage a wide range of people in the importance and value of Antarctica for humanity. This group shares its expertise and experience using many different methods to convey information and raise awareness of various subjects, including Antarctic science (e.g. related to climate change), environmental issues, National Antarctic Programmes and education and outreach.

Considering language and cultural differences across Parties, there is a synergy in the approach they take. Several national governments support education and learning initiatives about the polar regions. Most Parties, through their scientific and educational communities, participate in different types of national and international science fairs and events. Many organise or participate in educational events during Polar Weeks, which are organised by APECS, and in Antarctica Day (Caramello et al., 2017). Many are actively involved in networks, such as Polar Educators International (PEI), or get involved in creating content for museums and science centres.

There is a growing number of formal online learning resources for primary and secondary school students. These resources cover subjects such as Antarctic geography, flora and fauna, environmental issues, and the work done by national programmes. A few of these resources have specific Antarctic Treaty and Environmental Protocol content designed to inform and teach students about international governance (Bulgaria et al., 2015a, b).


These educational efforts, combined with national programmes' media relations, stakeholder engagement and Artists' & Writers' programmes (Elzinga, 2016), contribute to a society that is informed about important global issues and the role that Antarctica plays in the Earth System. These initiatives help lay the groundwork for promoting better communication between policy makers, educators and scientists (Hughes, Liggett, Roldan, Wilmotte, & Xavier, 2016; Liggett, 2015; May, Huffman, Xavier, & Walton, 2014).

Possible future directions on education and outreach within the ATCM

The ATCM now recognises the importance of sharing information on these activities between the Parties via an ATCM forum on education and outreach. The ATCM ICG E & O is committed to delivering the aspiration in Article 6.1.a of the Protocol on Environmental Protection, to promote the educational value of Antarctica and Antarctic research (in its widest aspects) to many diverse sectors of society. The professional networks built during IPY are the foundation for an extraordinary international partnership of agencies, institutions and individuals (e.g. check the partnerships made by APECS (<https://www.apecs.is/who-we-are/partners-and-sponsors.html>) and PEI (<https://polareducator.org/>)) who share a common goal of promoting and explaining the societal

and economic value of Antarctic science and environmental protection. One important initiative has been the production of an online summary of the key elements of the Treaty for schoolchildren in 22 languages by the NGO Our Spaces (<http://celebratingantarctica.tumblr.com/>).

The digital revolution provides these networks with the tools and technology to connect with one another as well as with wider society. The establishment of Antarctica Day and Polar Weeks may provide key focal points in the Antarctic calendar for those involved in engaging and inspiring people of all ages. Evaluation of education and outreach initiatives carried out by a wide range of identities (e.g. the scientific community, national Antarctic programmes, APECS, PEI, WMO (World Meteorological Organization), NGOs, Antarctic heritage charities, the Antarctic tourism industry) showed that multinational educational activities can achieve good results (i.e. engagement of numerous Parties, cooperation of Parties on education issues, ability to reach a wide range of different audiences) (Bulgaria et al., 2015b) but more efforts are needed by Parties to carry out evaluations and detailed assessments of their education and outreach initiatives. The stage is set for the next generation of education and outreach initiatives to promote the values of the Antarctic Treaty, international cooperation and interdisciplinary research. Agreeing with previous work (Dingwall & Walton, 1996), there continues to be a need to collect and disseminate details of educational activities by Parties and assess how information and materials about the Antarctic Treaty could be publicly accessible. In addition, a longer-term goal is to create synergies, reproduce activities in different languages, and embody the Antarctic spirit of cooperation in the domain of outreach and education. The establishment of the ATCM Intersessional Contact Group for E&O is the first step.

Author ORCIDs.  José C. Xavier 0000-0002-9621-6660

Acknowledgments. This work is an international effort from the Scientific Committee on Antarctic Research (SCAR) associated programmes, namely SCAR AnT-ERA, SCAR Ant-ECO and ICED, and from the COMNAP expert group on Education, Outreach and Training. JCX was supported by the Investigator FCT program (IF/00616/2013) and this study benefited from the strategic programme of MARE, financed by FCT (MARE-UID/MAR/04292/2013). LC is supported by the NERC Public Engagement in Research Programme. AW is supported by the Belgian Science Policy projects CCAMBIO and MICROBIAN and thanks the FRS-FNRS for a Research Associate fellowship.

References

- Baeseman, J., Xavier, J. C., Lantuit, H., & Taylor, A. (2011). Early career researcher activities during the 4th International Polar Year. In I. Krupnik, I. Allison, R. Bell, P. Culer, D. Hik, J. Lopez-Martinez, V. Rachold, E. Sarukhanian, & C. Summerhayes (Eds.), *Understanding earth polar challenges: International Polar Year 2007–2008* (pp. 511–522). University of the Arctic, Rovaniemi, Finland: CCI Press.
- Barber, L., Baeseman, J., Carlson, D., Edwards, K., Kaiser, B., Poort, L., . . . Straka, T. (2010). Outreach: inspiring ideas and initiatives from around the world. In B. Kaiser, S. Zicus, & B. Allen (Eds.), *Polar science and global climate: An international resource for education & outreach* (pp. 143–210). Hoboken, NJ: Pearson Education.
- Berkman, P. A., Lang, M. A., Walton, D. W. H., & Young, O. R. (2011). *Science diplomacy: Antarctica, science, and the governance of international spaces*. Washington, DC: Smithsonian Institution Scholarly Press.
- Brazil, Belgium, Bulgaria, Portugal, & UK. (2014). Education and outreach activities associated with Antarctic Treaty consultative meetings (ATCM). Retrieved April 21, 2017, from http://www.ats.aq/devAS/info_finalrep.aspx?lang=e&menu=2

- Bulgaria, Belgium, Brazil, Chile, Portugal, & UK.** (2015a). Co-chairs' report of the Workshop on Education, Sofia, Bulgaria, May 2015 ATCM XXXVIII. Retrieved April 21, 2017, from http://www.ats.aq/devAS/info_finalrep.aspx?lang=e&menu=2
- Bulgaria, Belgium, Brazil, Chile, Portugal, & UK.** (2015b). Report on the ATCM XXXVIII workshop on Education and Outreach. Retrieved April 21, 2017, from http://www.ats.aq/devAS/info_finalrep.aspx?lang=e&menu=2
- Capper, L.** (2013). Making an impact: Communications, education and outreach. In G. Wratt (Ed.), *A story of Antarctic cooperation. 25 years of the Council of Managers of National Antarctic Programmes* (p. 105). Christchurch, New Zealand: COMNAP.
- Capper, L., Dinar, A., & Allen, A.** (2006). Discover Antarctica! Public engagement campaign: Evaluation report. Retrieved from <https://www.bas.ac.uk/about/antarctica/the-antarctic-treaty/the-antarctic-treaty-explained/>
- Caramello, N. D. A., Ivar do Sul, J. A., Souza, J. S., Santos, E. A., Piuco, R. C., Affonso, S. F., . . . Costa, E. S.** (2017). Ciência Polar e a Comunicação entre estudantes, educadores e cientistas. *Revista Eletrônica Científica da UERGS*, 3, 340–371.
- Dingwall, P. R., & Walton, D. W. H.** (Eds.). (1996). *Opportunities for Antarctic environmental education and training*. Gland, Switzerland, & Cambridge, UK: IUCN.
- Elzinga, A.** (2016). Some reflections on the emergence of Antarctic humanities. In P. Roberts, L.-M. van der Watt, & A. Howkins (Eds.), *Antarctica and the humanities* (pp. 273–302). London: Palgrave Macmillan.
- Hughes, K. A., Liggett, D., Roldan, G., Wilmotte, A., & Xavier, J. C.** (2016). Narrowing the science/policy gap for environmental management. *Antarctic Science*, 28, 325. doi: [10.1017/S0954102016000407](https://doi.org/10.1017/S0954102016000407)
- Kaiser, B., Zicus, S., & Allen, B.** (2010). *Polar science and global climate: An international resource for education & outreach*. Essex, UK: Pearson Custom Publishing.
- Liggett, D.** (2015). Conference reports, notes and announcements. *The Polar Journal*, 5(2), 470–479. doi: [10.1080/2154896X.2015.1089671](https://doi.org/10.1080/2154896X.2015.1089671)
- May, I., Huffman, L. T., Xavier, J. C., & Walton, D. W. H.** (2014). Education and polar research: Bringing polar science into the classroom. *Journal of Geological Resource and Engineering*, 4, 217–221.
- Painter, J.** (2011). *Poles apart. The international reporting of climate scepticism*. UK: Reuters Institute for the Study of Journalism, University of Oxford.
- Provencher, J., Baeseman, J., Carlson, D., Badhe, R., Bellman, J., Hik, D., . . . Zicus, S.** (2011). *Polar research education, outreach and communication during the fourth IPY: How the 2007–2008 International Polar Year has contributed to the future of education, outreach and communication*. Paris: International Council for Science (ICSU).
- SAT.** (2013). *Final report of the thirty-sixth Antarctic Treaty consultative meeting*. Brussels, 20–29 May 2013. Retrieved April 21, 2017, from http://www.ats.aq/devAS/info_finalrep.aspx?lang=e&menu=2
- Shukman, D.** (2010). *An iceberg as big as Manhattan: Reporting from science's new frontlines*. London, UK: Profile Books.
- Walton, D. W. H.** (2013). *Antarctica: Global science from a frozen continent*. Cambridge, UK: Cambridge University Press.
- Xavier, J. C., Fugmann, G., Beck, I., Huffman, L., & Jensen, E.** (2016). Education on biodiversity in the polar regions. In P. Castro, U. M. Azeiteiro, P. Bacelar-Nicolau, W. L. Filho, and A. M. Azul (Eds.), *Biodiversity and education for sustainable development* (pp. 43–56). Cham, Switzerland: Springer International Publishing.