



Where are they now? – A case study of the impact of international travel support for early career Arctic researchers



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ABSTRACT

Supporting and training the next generation of researchers is crucial to continuous knowledge and leadership in Arctic research. An increasing number of Arctic organizations have developed initiatives to provide travel support for Early Career Researchers (ECRs) to participate in workshops, conferences and meetings and to network with internationally renowned scientific leaders. However, there has been little evaluation of the effectiveness of these initiatives. As a contribution to the 3rd International Conference on Arctic Research Planning, a study was conducted to analyze the career paths of ECRs who received travel funding from the International Arctic Science Committee between the start of the International Polar Year (2007–2008) and 2013. Two surveys were used: one sent to ECRs who received IASC travel support and one as a specific event study to those unsuccessfully applied for IASC travel support to the IPY 2010 Conference. The results of the surveys indicate that travel support was beneficial to both the research and careers of the respondents, especially if the ECR was engaged with a task or responsibility at the event. Survey responses also included suggestions on how funds could be better used to support the next generation of Arctic researchers.

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1. Introduction

Over the last ten years, the involvement of Early Career Researchers (ECRs) in international polar research processes (conferences, workshops, projects, etc.) has been increasingly prioritized (Baeseman and Pope, 2011; Provencher et al., 2012). Various sponsors have made travel support available for ECRs to attend meetings, and ECR participation has become an important factor in event planning.

The fourth International Polar Year (IPY – 2007–2008) was one of the first efforts to make significant improvements in the participation of ECRs in international polar research (Baeseman

et al., 2011). It was the largest scientific program focused on polar science to date, covering both the Arctic and Antarctic, and was co-sponsored by the International Council for Science (ICSU) and the World Meteorological Organization (WMO) (Krupnik et al., 2011). The IPY included over 200 projects and more than 50,000 participants from all over the world working to examine physical, biological, and social research questions related to both poles (Krupnik et al., 2011). During the early days of the IPY, ECRs created the Association of Polar Early Career Scientists (APECS) as a platform to push for the active engagement of fellow young scientists in both planning and participating in the activities of IPY (Baeseman et al., 2011; Provencher et al., 2011; Salmon et al., 2011). Prior to APECS, sustained support of ECRs was standard practice only at a few polar-related organizations.

The International Arctic Science Committee (IASC) is one of the many polar organizations helping ECRs take part in international

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conferences, workshops, meetings, research programs and science planning activities. IASC is a non-governmental organization which aims to “encourage, facilitate and promote cooperation in all aspects of Arctic research, in all countries engaged in Arctic research, and in all areas of the Arctic region” (IASC, n.d.). IASC has adapted practices recognizing that it is important to involve young researchers. Before IPY and the formation of APECS, IASC only supported a handful of early career scientists per year. A more organized approach to sustained financial support for ECRs has emerged since then; between 2007/2008 and 2013, IASC provided 313 travel stipends for 287 ECRs to participate in Arctic and Arctic-related research events. These range from the large interdisciplinary conferences of the IPY with thousands of participants to disciplinarily-focused workshops and field courses (e.g. Workshop on Genetic Monitoring in the Polar Regions in 2011) and IASC-related initiatives and group meetings (e.g., Arctic in Rapid Transition executive committee meeting in 2013) (see Appendix, IASC Database, 2014). Travel support was available for workshops and conferences that were scientifically relevant to IASC and were led by or related to the five IASC working groups and for the Arctic Science Summit Week, IASC’s annual meeting where all IASC working groups come together. Close cooperation between IASC and APECS has also influenced for which events IASC provided travel support. Together IASC and APECS have worked to ensure a welcoming atmosphere for travel support recipients through networking events, dedicated ECR workshops, and mentoring opportunities scheduled around the main event. These side events are a unique supplement to traditional travel support programs supporting ECRs.

Over the years IASC has offered travel support to ECRs, the goals for the funding have evolved with the field. The primary aims have been to improve the knowledge, networks, and soft skills of the ECRs attending the events, and this way to increase ECR retention in polar sciences, and to support ECRs as productive members of the Arctic scientific community. As the profile of ECRs in polar science has increased with time, an additional focus to increase representation and involvement of early career researchers in all bodies of the Arctic research community and organizations has been developed. This is in support of “the need for a continuum of leadership in polar research” as stated in the Memorandum of Understanding between IASC and APECS (IASC, n.d.).

The importance of supporting and involving young scientists is widely acknowledged as they will be the scientific leaders of tomorrow (Friesenhahn and Beaudry, 2014). However, available literature on this topic is scarce. With the Global State of Young Scientist project, Friesenhahn and Beaudry (2014) provided an extensive review combined with empirical data from 650 survey respondents with 45 semi-structured interviews of young scholars to explore the global state of young scientists and identify their opportunities and concerns. Results of this report demonstrate the incomplete and geographically biased knowledge (primarily produced in Europe and North America) on the state of ECRs. The report identified needs in the following areas: mentoring and support structures, focused training, transparency and fairness, working conditions, and cultivating values. The report provides a list of recommendations at the policy and institutional level, in which the lack of funding for early career scientists across regions of the world was noted. Evaluation of the career benefits of early career participation in international conferences and meetings or the impacts of travel support was not included in Friesenhahn and Beaudry (2014).

In 2014 and 2015, the 3rd International Conference on Arctic Research Planning provided APECS, the Climate and Cryosphere (CliC) Project of the World Climate Research Programme (WCRP) and IASC with an opportunity to evaluate the benefit of initiatives

to support young scientists’ participation in international conferences, workshops and meetings. The three organizations used the IASC travel funding available for ECRs as a case study to make this assessment. This evaluation was conducted with regard to the stated goals of IASC support for ECRs (see above) and considered whether supporting young researchers resulted in an increase in their knowledge and networking skills, allowed them to become productive members of the Arctic scientific community, created more opportunities to engage in quality science, and made it possible to apply knowledge gained from Arctic research to other professional and personal activities. The scenario where an ECR leaves science and does not use their Arctic knowledge in any respect is considered a failure. A survey was sent to the ECRs who were awarded IASC travel support between the start of the last IPY (2007/2008) and 2013, asking them about the impact of the IASC travel support on their careers. A second survey was sent to a group of ECRs who were not successful in their applications for travel support to the IPY 2010 Conference in Oslo, Norway. Answers to the two different surveys were compared, and analyses were conducted to evaluate the impact of travel support provided to. The necessity of understanding what makes ECRs succeed and how the community can best promote them is very timely in the light of the increasingly global context: young researchers are more mobile and international than ever before (Friesenhahn and Beaudry, 2014; Wardell et al., 2008).

2. Methods and data

2.1. Survey design

Both 42-question surveys were developed in-house using questions (see example in Table 1) derived from conversations with fellow scientists. With 17 open-ended and 25 constrained-choice questions, the survey could be completed in approximately 15 min. The surveys were posted on-line using Google forms. The answers to both surveys were used for the purpose of this study only and the identities of the respondents were kept confidential.

Survey 1 (sent to ECRs who received travel support) started with a set of demographic questions that were used for statistical purposes. The survey was then divided into two parts – one for those who remain in an Arctic-related career (either in academia, policy, education and outreach or management etc.), and another section for those no longer working in an Arctic-related career. The survey was designed to assess ECRs’ experiences and satisfaction in the following areas: participation in an IASC-funded activity/event; responsibilities attached to the funding; benefits of participation in the event; involvement in IASC activities prior to/after receiving the funding; benefits from the support received, and professional development (including involvement in Arctic organizations, career goals and challenges).

Survey 2 was constructed similarly to Survey 1 with additional options for ECRs who participated in the 2010 IPY Conference without IASC funding and for those who did not participate at all. Survey 2 included additional open-ended questions to allow non-funded participants to describe their participation in the event. Analyses of these responses were conducted to evaluate how their career challenges differed from the ones identified by those who did receive funding.

2.2. Participants

Travel support provided by IASC to selected events is subject to several requirements: the recipient has to conduct Arctic research, be within 5 years of having finished their PhD, and be located at a scientific institution/organization in one of the 19 IASC member

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