

## Guest Editorial

### Narrowing the science/policy gap for environmental management

Antarctic terrestrial and marine environments are under increasing pressure from national operator activities, tourism and climate change. The Protocol on Environmental Protection to the Antarctic Treaty provides overarching legislation concerning the environmental management of the Treaty area, with 2016 marking the Protocol's 25th anniversary. The Protocol also established the Committee for Environmental Protection (CEP) to provide advice to the Antarctic Treaty Consultative Meeting (ATCM) on environmental matters. Today, the CEP's Five-Year Work Plan and Climate Change Response Work Programme lists and prioritises issues that need to be addressed to ensure impacts in Antarctica by human activities are both recognized and minimised. Despite all of this, recent evaluations have suggested that a slow pace of environmental policy development presents a significant threat to effective Antarctic conservation. Progress on many environmental issues, including wildlife disturbance, the conservation status of Antarctic species, area protection and pollution management, is glacial or has stalled completely. Whilst in some cases capacity issues concerning those responsible for Antarctic environmental policy work may be a contributing factor, the level of interaction between researchers and those responsible for environmental management and decision-making is also of importance. Without quality science - and effective interpretation of research results - policymakers have little evidence on which to base their decisions. But researchers need to know policymakers' needs. Two-way communication is essential: policymakers could ask the research community to answer specific environmental questions, and, in turn, researchers could present evidence-based recommendations and highlight emerging threats. But how is this to be funded? Ultimately, effective communication is needed between national government departments responsible for funding Antarctic research and those dealing with Antarctic environmental protection. Hopefully, this will ensure essential research informing environmental policy decisions is adequately resourced. In reality, the cost is likely to be trivial compared with the resources spent by Parties on Antarctic logistics.

Good communication channels may exist already between scientists and policymakers within individual Parties, and maintaining and developing these relationships should be encouraged. However, scientists may also support Antarctic conservation through the Scientific Committee on Antarctic Research (SCAR), as part of SCAR's role to provide impartial scientific advice to the CEP and the ATCM. SCAR cannot fund specific research, but can facilitate cooperation between scientists internationally and provide overviews of scientific activities across national science programmes. Importantly, SCAR can bring emerging issues or developments in scientific understanding to the attention of the CEP and ATCM, thereby facilitating evidence-based policymaking. Adequate interpretation of science for policymakers is essential, and here there is some progress. The Antarctic Environments Portal ([www.environments.aq](http://www.environments.aq)) now makes summarised scientific information available to policymakers from all Parties on an increasingly broad range of topics. Encouragingly, researchers are participating more in CEP meetings through both SCAR and national delegations, which provides an opportunity for provision of scientific advice at the point where policy decisions are made. Clearly, greater engagement between researchers and Antarctic policymakers is required. To help facilitate this, the SCAR Open Science Conference in Kuala Lumpur (August 2016) will include a mini-symposium highlighting the policy relevance of science carried out by the Antarctic scientific community under SCAR and its connection with the Antarctic Treaty System and, in particular, the Protocol. The mini-symposium will provide an opportunity to learn more about the importance of Antarctic environmental legislation, facilitate discussion on how SCAR scientists can engage more in policy and identify the scientific and environmental issues that may be important to policymakers and SCAR in the future. Our opportunity and ability to do science in Antarctica is likely to depend on informed environmental management and legislation so this concerns everyone!

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