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Guest Editorial

Strengthening the role of science in Antarctic policy shaping: learning from the Arctic

The Arctic region is undergoing significant and rapid change due to independent and interlinked factors such as climate change, human demographic shifts, industrialization, shipping activity, demands for natural resources, culture shifts, and long-range transport of pollution.

The Arctic Council, a high-level intergovernmental forum established to promote cooperation, coordination and interaction between the Arctic States, has recognized the importance of science as basis for understanding these changes. In parallel the Arctic science community has realized the importance of making science available in a form that enables both the Arctic Council itself, and its member states individually, to make more evidence based decisions on how to tackle the these complex changes. The Arctic Council has, in a number of instances, identified what major science issues are of importance for policy shaping, and has initiated large and comprehensive assessment processes. These are coordinated through the Arctic Council organizational structure, but lead and carried through by the science community, often with extra funds provided by a lead country. The end product provides an informed platform for the decision makers for policy related discussions. One prime example of this is the production of the full scientific and the popularized versions of the *Arctic Climate Impact Assessment* (ACIA) in 2005, which had and has wide ranging repercussions in the policy sphere both inside and outside the Arctic. The Arctic Marine Shipping Assessment (AMSA) and Snow, Water, Ice and Permafrost in the Arctic (SWIPA) are other examples of useful scientifically based assessment to support policy decisions.

The Antarctic is also undergoing rapid environmental changes that may have massive repercussions within and outside of the area. Antarctica is obviously governed under a very different jurisdictional framework than the Arctic, but also here there is both a clear international governance framework and a strong scientific body present. Yet, even though both the Antarctic Treaty itself and the Scientific Committee on Antarctic Research (SCAR) has a longer history than their equals in the north, science transfer and use in policy making and governance actions seems slower. SCAR's report on *Antarctic Climate Change and the Environment* (ACCE), for example, has unfortunately not gained the same importance as the ACIA has for the Arctic, although in many respect they are mirror products.

It is unclear what causes this apparent limitation to provide and rapidly use good science as basis for policy shaping in Antarctica. Is it due to the Treaty not having enough of a directed approach, or to a lack of organizational structures to support the development of such scientific documentation, or even to the science being provided in the wrong format? Probably it is a combination of all three.

Antarctic governance must be based on the best available scientific knowledge, and it appears that there is still room for improvement in this regard. Both the Antarctic Treaty members and the scientific community should explore various options to improve this situation. It seems useful therefore to consider closely the structures and processes developed in the Arctic context, and apply some of them as new tools in an Antarctic context. Could one option be to commission studies through the Antarctic Treaty Secretariat or form targeted working groups? Can the web-based Antarctic Environmental Portal currently under consideration alleviate the challenge in making science more easily accessible? The Antarctic Treaty Parties need to take a close look at how they currently use facts and scientific knowledge as basis for their discussions, while the science community on their side need to consider how they can better communicate scientific results in a manner that makes them relevant for policy, but without compromising the independent nature of science.

JAN-GUNNAR WINTHER
BIRGIT NJAASTAD