

**From:** SCAR Action Group on Horizon Scanning\*

**To:** The Antarctic and Southern Ocean Communities and those with Interests in the Southern Polar Regions

**Re:** Antarctic Science and Policy: Beyond the Horizon - A Call for Community Participation in Planning Efforts

**You are invited to provide input to the development of a framework and process for a Horizon Scan of Antarctic Science and Advice to Policy Makers.**  
**Wide consultation and input on how best to conduct the Horizon Scan is sought.**  
**Your participation is not only welcomed but needed.**

**Background** - How will the Antarctic atmosphere, ocean, cryosphere, geosphere and biosphere evolve over the next 20, 50 or 100 years? In what ways will ecosystems respond to environmental change in the southern Polar Regions in the 21<sup>st</sup> century? Will the ice sheets become unstable and cause the world's oceans to rise? What unique environments, organisms, and evolutionary traits remain to be discovered above, within and beneath the ice? Why is "what happens in Antarctica" important to the rest of the world? What emerging technologies will transform how science is conducted in Antarctica? Do we understand anthropogenic perturbations of Antarctic and Southern Ocean Earth Systems sufficiently to wisely manage and protect the region for future generations? These are but a few of the complex and challenging questions that the Antarctic community will be addressing in the coming years. The imperative to contribute to societal relevant discussions about our planet's future and the desire to pursue curiosity-driven science over the next few decades will be major determinants of future directions in Antarctic science and policy. Are we, as a community, planning for these future scenarios in a way that capitalizes on investments and optimizes partnerships?

**The Mandate** - As part of its Strategic Plan 2011-2016, the Scientific Committee on Antarctic Research (SCAR) committed to lead a community-wide effort to "scan the horizon" every 4 or 5 years to better forecast where Antarctic science is going in the future and how the knowledge produced can best support wise policy-making. These efforts will allow for better use of resources, minimize human impact, and ensure that the infrastructure necessary to support the next generation of Antarctic scientific programs is in place. We intend to provide advice on emerging frontiers in science and gaps in knowledge that will require investments by national programs. By planning together as a community, we hope to identify efficiencies, synergies, and partnerships that can magnify the impact of Antarctic science. We invite you to join in not only defining these directions but influencing future directions in science and the provision of scientific advice to policy-makers.

**Horizon Scan Planning** - A SCAR Action Group is tasked with managing the first steps in this process and asks for your input about how best to create a robust framework and process for collectively identifying future directions in Antarctic science and science advice to policy makers. To be clear, this request is not for input to the Horizon Scan itself, which will be implemented over the next two years or so, we are asking you to help us plan a process that will have greatest impact and participation.

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## **WHY AN ANTARCTIC AND SOUTHERN OCEAN SCIENCE AND POLICY ADVICE HORIZON SCAN?**

Anticipation of and preparation for future challenges, trends, threats, and opportunities is essential for the enduring success of an organization and the community that it serves. This has never been truer than in these times of global financial stress and uncertainty. A robust and defensible vision for the future is particularly important for the resource intensive undertakings necessary to conduct science and research in Antarctica and the Southern Ocean. Financial investments in science and technology are under pressure, priorities are being set, expenditures must be justified in the context of benefits, efficiencies and synergies are demanded, and difficult decisions will be made regarding the allocation of human and financial resources. As part of its international, scientific leadership role; the Scientific Committee on Antarctic Research (SCAR) is committed to organizing and managing a community-based activity to provide a consensus medium- and long-term vision of future directions and emerging frontiers in Antarctic and Southern Ocean science and research that will inform the community as it strives to more effectively organize and manage its limited resources for greatest impact.

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### **THE SCAR HORIZON SCAN .....**

will be designed to detect important developments and trends in Antarctic and Southern Ocean science and the role of science in policy-making. The Horizon Scan will include: 1) a comprehensive, systematic, inclusive and transparent examination of challenges, opportunities, and gaps in knowledge at the margins of current Antarctic and Southern Ocean scientific thinking; 2) consideration of new and emerging technologies and their effects on how science can and is being conducted; 3) identification of opportunities for and threats to the conduct of science and research in Antarctica; and 4) the exploration of current novel and/or unexpected findings that challenge past assumptions and define alternative future directions. The Horizon Scan will develop a “big picture” view of where Antarctic and Southern Ocean science is going and how that science can better support knowledge-based policy making. A wide variety of sources of information will be consulted including the Internet, government ministries and agencies, non-governmental organizations, international organizations, research communities, databases and journals. Horizon scanning will be undertaken by a group of invited experts who are at the forefront of Antarctic science and research, those who provide logistics and infrastructure, representatives of agencies that fund Antarctic research, and individuals that utilize science in policy- and decision-making. The assembled group will share their perspectives and knowledge with each other to identify evolving trends, future directions, and emerging themes in Antarctic and Southern Ocean science and scientific advice to policy makers. Horizon scanning outputs will recommend strategies to ensure that the community and stakeholders are aware of developments, trends, and changes in the medium- to long-term future that could impact Antarctic science and policy. Strategies will be recommended that anticipate future needs, highlight possibilities for working in new ways, and gain lead time for adjustments by those that fund, support, and conduct science in Antarctica.

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**For more detailed information on the action group and the concept of horizon scanning go to:**

<http://www.scar.org/horizonscanning/>

## HORIZON SCAN PLANNING - QUESTIONS TO THE COMMUNITY

1. WHO ARE THE MOST IMPORTANT AUDIENCES, USERS, OR VIEWERS OF THE OUTCOMES OF A SCAR HORIZON SCAN? Who would most likely be interested in the outcomes of and benefit the most from a Horizon Scan? Why?
  - a. *Funding agencies, National Antarctic Programs, politicians, policy makers, the public, etc...*
2. WHO SHOULD BE ENGAGED IN SCANNING THE HORIZON TO PRODUCE THE MOST EFFECTIVE, REPRESENTATIVE (CONSENSUS), AND USEFUL OUTCOMES? What SCAR communities and/or stakeholders should be engaged? Which SCAR partners need to be actively engaged? Which external experts are needed to provide perspectives beyond the polar sciences?
  - a. *Working scientists, science administrators, NGOs, NAPs, government agencies, etc.....*
  - b. *External experts – experts on scientific/methodological breakthroughs, technologists, futurists, horizon scan experts, global programs, etc., etc....*
3. WHAT ARE THE KEY DOCUMENTS THAT WOULD INFORM THE HORIZON SCAN? - What materials/reports provide a sound foundation for a Horizon Scan?
  - a. *Strategic plans, workshop reports, “grand challenges” documents, peer-reviewed literature, etc., etc.*
4. WHICH STAGES OF THE HORIZON SCAN ARE MOST CRITICAL TO ENSURING WIDE PARTICIPATION AND CONSENSUS ON OUTCOMES? What do you see as the most critical steps in the Horizon Scan process? Why?
  - a. *Information gathering, consensus building, the Horizon Scan retreat, outcome review, dissemination, etc. etc.....*
5. HOW CAN THE TIME AT THE HORIZON SCAN RETREAT BE MOST EFFECTIVELY AND PRODUCTIVELY USED? - How can Horizon Scan retreat time be used to greatest impact and ensure useful outcomes?
  - a. *Break-out groups (how to organize?), plenary presentations, discussion leaders, real-time document production, etc., etc.....*
6. HOW CAN THE VIEWS AND INPUT OF THOSE NOT ATTENDING THE HORIZON SCAN RETREAT BE MOST EFFECTIVELY INCLUDED? (Taking into account it is likely that no more than 40-50 people can be invited to the physical, Horizon Scan retreat).
  - a. *Electronic town halls, live town halls, on-line surveys, wide document review, post-retreat meetings, electronic access during the retreat, etc., etc....*
7. HOW WOULD YOU USE THE OUTCOMES OF A HORIZON SCAN AND WHAT TYPES OF OUTPUTS WOULD YOU FIND MOST EFFECTIVE? What would be the ideal outputs from a Horizon Scan from your perspective?
  - a. *Glossy reports, a web site, data bases, short synopses of important conclusions, recommendations, presentations, etc. etc.....*