

**LETTER OF AGREEMENT
BETWEEN
THE GLOBAL OCEAN ECOSYSTEM DYNAMICS PROGRAMME
(GLOBEC)
AND
THE SCIENTIFIC COMMITTEE ON ANTARCTIC RESEARCH (SCAR)
ON CO-SPONSORSHIP OF
THE SOUTHERN OCEAN GLOBEC REGIONAL PROGRAMME (SO
GLOBEC)**

Preamble

This letter recognises that there are many common interests between GLOBEC and SCAR in the Southern Ocean, and that there is much to be gained therefore from developing a synergy between GLOBEC and SCAR in that region.

Informal links already exist, for example (i) in the organisation by GLOBEC and SCAR scientists of a session on “Southern Ocean Marine Ecosystems” as part of the SCAR Open Science Conference that took place in Bremen, Germany, during July 26-28, 2004; (ii) in the plans for SCOR and SCAR to co-sponsor a session on Interdisciplinary Research in the Southern Ocean”, which will involve GLOBEC scientists, as part of the forthcoming IAPSO/IABO meeting in Cairns, Australia, in August 2005; (iii) in the planning of the 9th SCAR Biology Symposium (25-29 July, 2005, Curitiba, Brazil).

A link between SCAR and SO GLOBEC at this time is encouraged to ensure that both communities together make an integrated and comprehensive contribution to meeting the goals of the International Polar Year, which runs from 1 March 2007 to 1 March 2009.

1. GLOBEC

GLOBEC is jointly sponsored by SCOR, IOC and IGBP. It aims to advance understanding of the structure and function of the global ocean ecosystem, its major subsystems, and its response to physical forcing so that a capability can be developed to forecast the responses of the marine ecosystem to global change. GLOBEC has a number of regional programmes, one of which (SO GLOBEC) focuses on the Southern Ocean.

The specific goal of SO GLOBEC is to understand the physical and biological factors that contribute to enhanced Antarctic krill growth, reproduction, recruitment and survivorship throughout the year. Its focus also includes the predators and competitors of Antarctic krill, such as seal, penguins, whales, fish, seabirds and other zooplankton. The UK (west Antarctic Peninsula and Scotia Sea), Germany (west Antarctic Peninsula and Lazarev Sea), Korea (Bransfield Strait), the United States (west Antarctic Peninsula) and the International Whaling Commission (IWC) are the main participants. The field phase of the programme comes to an end in 2007, and will overlap with and be followed by an integration and synthesis phase that will end in 2009.

Building on its successes, SO GLOBEC has commenced planning a follow-up programme labelled ICCED (Integrated analysis of Circumpolar Climate Interactions and Ecosystem Dynamics in the Southern Ocean), which will be conducted under the common umbrella of GLOBEC and a new SCOR/ IGBP programme named IMBER (Integrated Marine Biogeochemistry and Ecosystems Research). ICCED will be a

circum-polar, interdisciplinary approach to understand climate interactions in the Southern Ocean, their implications for ecosystem function and their feedbacks to biogeochemical cycles.

2. SCAR

SCAR is a sister organisation to SCOR, and part of the International Council for Science (ICSU). Its geographical remit covers Antarctic and the surrounding Southern Ocean including the Antarctic Circumpolar Current south of the Subantarctic Front, more or less the same region covered by SO GLOBEC. SCAR's main aim is to initiate, develop, and co-ordinate leading edge scientific activity in the Antarctic region, and on the role of the Antarctic region in the Earth system. It also provides objective and independent scientific advice to the Antarctic Treaty Consultative Meetings and other organizations on issues of science and conservation affecting the management of Antarctica and the Southern Ocean. And it aims to facilitate free and unrestricted access to Antarctic scientific data and information.

SCAR plans to begin in 2005 a major Scientific Research Programme on "Evolution and Biodiversity in the Antarctic: the response of life to change" (EBA). EBA will use a range of modern techniques and a multidisciplinary approach to explore the evolutionary history of the modern Antarctic biota, examine how modern biological diversity in Antarctica influences how present-day ecosystems function, and thereby attempt to predict how the biota may respond to future environmental change. For the first time, it will integrate the major realms of Antarctic biology into a cohesive picture and contribute to evolutionary theory and understanding of global ecology and biological diversity. More specifically, this programme will examine:

- The evolutionary history of the Antarctic biota.
- Evolutionary adaptations to the Antarctic environment.
- Patterns of gene flow within, into and out from the Antarctic, and their consequences for population dynamics.
- Patterns and diversity of organisms, ecosystems and habitats in Antarctica, together with the controlling ecological and evolutionary processes.
- The impact of past, current and predicted environmental change on biodiversity and the consequences for Antarctic marine, freshwater and terrestrial ecosystem function.

This programme explicitly involves an integration of work on marine, freshwater and terrestrial ecosystems in a manner never before attempted within SCAR. The science in this program thus extends over an entire biome on Earth, and by comparing the outcome of similar evolutionary processes in freshwater, terrestrial and marine systems, fundamental insights can be obtained into evolutionary processes and the ways in which life responds to change, from the molecular to the whole organism level. Furthermore the Antarctic political environment offers a unique opportunity to address a series of globally significant scientific questions. Most national programmes cannot attempt a study on such a bold scale by themselves, whereas the collaborative spirit of the Antarctic science community will provide a mechanism for achieving outstanding scientific success.

A key observational element of EBA during the International Polar Year will be the proposed Circum-Antarctic Census of Marine Antarctic Life, which SCAR is coordinating.

EBA will subsume the existing SCAR biology programmes: EVOLANTA (Antarctic biological evolution), and RISCC (Regional Sensitivity to Climate Change in Antarctic Terrestrial and Limnetic Ecosystems).

SCAR, and more specifically its Life Sciences Standing Scientific Group, also includes focused activities that may contribute to achieving GLOBEC goals:

- Action Group on “Best Practices for Conservation”: to review and establish current best practices for conservation in an Antarctic context.
- Action Group for the “Circum-Antarctic Census of Marine Life”: to act as a scientific steering committee for the Southern Ocean component of the global CoML programme.
- Expert Group on Birds: to provide long-term data on avian populations in the region; to encourage, coordinate and support research on seabirds; to contribute to their conservation; and to provide scientific advice to SCAR.
- Expert Group on Seals: to provide information on the status of seal stocks as required by the Convention for the Conservation of Antarctic Seals (CCAS); to encourage research and information exchange on this group of animals; and to provide scientific advice to SCAR.

3. Co-sponsorship

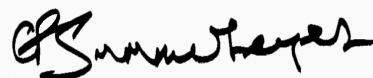
GLOBEC and SCAR share common goals in seeking to observe, understand, and predict biological variability and change in the Southern Ocean. GLOBEC and SCAR aim to share corresponding efforts and resources and avoid duplication. This will be achieved through SCAR co-sponsoring the SO GLOBEC programme and in particular its Integration and Synthesis (I+S) phase.

This development requires no change to the terms of reference of the programme. In consultation with the GLOBEC IPO and SO panel, SCAR will nominate representatives to the SO GLOBEC I+S group and cover the costs of their attendance at appropriate meetings. The SCAR representative will inform the I+S group about SCAR’s activities relevant to GLOBEC, and inform SCAR about the activities of the SO GLOBEC I+S group, to ensure an effective exchange of information, and – where appropriate – the development of joint plans for new initiatives.

The agreement will remain in force until the end of the SO GLOBEC activities. This agreement will not preclude SCAR holding further discussions about SCAR’s possible involvement in ICCED.

By virtue of this agreement, the Southern Ocean GLOBEC Programme is renamed to SCOR/IOC/IGBP/SCAR Southern Ocean GLOBEC Programme.

Signed



Manuel Barange
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Colin Summerhayes
Executive Director, SCAR

Date 13 October 2004

Date 11 October 2004