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**REPORT ON THE ACTIVITIES OF THE SCIENTIFIC COMMITTEE ON ANTARCTIC
RESEARCH (SCAR) 2006/07**

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Abstract

This paper reports on the various activities conducted by or involving SCAR that relate directly to CCAMLR or are of potential interest to CCAMLR. This includes a report on progress with the new Evolution and Biodiversity in the Antarctic (EBA), SCAR-MarBIN, the Action Group on Continuous Plankton Recorder research and the Census of Antarctic Marine Life (CAML) projects. CAML has been developing links with the CCAMLR-IPY Survey. The new SCAR-MarBIN data portal continues to gather information on marine biodiversity in Antarctic and both SCAR-MarBIN and CPRAG have been involved with CCAMLR's Bioregionalisation Workshop with the provision of data and expertise. The SCAR/SCOR Oceanography Expert Group convened a meeting to develop the Southern Ocean Observing System. SCAR commissioned a report of the State of the Antarctic and Southern Ocean Climate Systems. SCAR is also a co-sponsor of both Southern Ocean GLOBEC and a new body ICED (Integrating Climate and Ecosystem Dynamics). A detailed summary of this report is provided as a supplementary information paper CCAMLR-XXVI/BG/37.

REPORT ON THE ACTIVITIES OF THE SCIENTIFIC COMMITTEE ON ANTARCTIC RESEARCH (SCAR) 2006/07

1. SCAR's Role

1. The Scientific Committee on Antarctic Research (SCAR) is an inter-disciplinary committee of the International Council for Science (ICSU). SCAR is charged with initiating, developing and coordinating high quality international scientific research in the Antarctic region, and on the role of the Antarctic region in the Earth system. The scientific business of SCAR is conducted by its Standing Scientific Groups in Geosciences, Life Sciences and Physical Sciences, which represent the scientific disciplines active in Antarctic research and report to SCAR. Each of the Standing Scientific Groups is supported by a number of sub-groups:

- i. Action Groups, e.g. Census of Antarctic Marine Life (CAML), Continuous Plankton Recorder research (CPRAG), Marine Biodiversity Information Network (SCAR-MarBin);
- ii. Expert Groups, e.g. birds and seals;
- iii. Scientific Planning Groups;

2. These various groups contribute to one or more of five Scientific Research Programmes sponsored by SCAR:

- i. Antarctica in the Global Climate System (AGCS)
- ii. Antarctic Climate Evolution (ACE)
- iii. Subglacial Antarctic Lake Exploration (SALE)
- iv. Interhemispheric Conjugacy Effects in Solar-Terrestrial and Aeronomy Research (ICESTAR)
- v. Evolution and Biodiversity in the Antarctic (EBA)

EBA has the most immediate relevance to CCAMLR but research conducted by ACE and AGCS may also assist CCAMLR. The latter deals with the present and changing climate.

3. In addition to carrying out its primary scientific role, SCAR also provides objective and independent scientific advice to the Antarctic Treaty Consultative Meetings (ATCM) and other organizations on issues of science and conservation affecting the management of Antarctica and the Southern Ocean. In that role, SCAR has made numerous recommendations on a variety of matters, most of which have been incorporated into Antarctic Treaty instruments. Foremost amongst these have been the advice provided for the many international agreements which provide protection for the ecology and environment of the Antarctic.

4. SCAR differs from CCAMLR by representing national academies of science rather than governments. It is made up of experts nominated by national academies who, even if they work for government agencies, are not there to represent their governments but to represent the science community in their country. The science carried out or fostered by SCAR scientists is for the most part about knowledge, understanding, and prediction: creating new knowledge by finding out what is there, determining the processes that drive the system, and using that knowledge and understanding in models to predict how the system may change in the future. SCAR's science is not about monitoring per se, for which it has no remit, although at times SCAR does monitor change over time as a means of determining the variability in the system. This makes SCAR different from and complementary to CCAMLR.

5. The President of SCAR is Professor Chris Rapley CBE (UK). The Executive Director is Dr Colin Summerhayes (UK) and the SCAR Observer to CCAMLR is Dr Graham Hosie (Australia, graham.hosie@aad.gov.au). The homepage of SCAR is www.scar.org and its strategic plan can be downloaded from www.scar.org/about/introduction/strategicplan/index.html.

2. Activities of Standing Scientific Groups on Life Sciences (SSG-LS)

6. The Chief Officer of SSG-LS is Dr Ad H L Huiskes (Netherlands). The Deputy Chief is Dr Gary Steel (New Zealand) and the Secretary is Dr Kathleen Conlan (Canada). The homepage for SSG-LS is www.scar.org/researchgroups/lifescience.

2.1 EBA Activities

7. The Evolution and Biodiversity in Antarctica (EBA) programme is one of SCAR's major Scientific Research Programmes. The EBA programme has updated its objectives. EBA is attempting to:

- Understand the evolution and diversity of life in the Antarctic;
- Determine how these have influenced the properties and dynamics of present Antarctic ecosystems and the Southern Ocean system;
- Make predictions on how organisms and communities are responding and will respond to current and future environmental change; and
- Identify EBA science outcomes that are relevant to conservation policy and communicate this science via the SCAR Antarctic Treaty System Committee

8. EBA's key areas of marine, terrestrial and freshwater research will be addressed through five Work Packages, each with defined sub-themes. The Work Packages are:

1. Evolutionary history of Antarctic organisms
2. Evolutionary adaptation to the Antarctic environment
3. Patterns of gene flow and consequences for population dynamics: Isolation as a driving force
4. Patterns and diversity of organisms, ecosystems and habitats in the Antarctic, and controlling processes
5. Impact of past, current and predicted future environmental change on biodiversity and ecosystem function

EBA is seeking to address issues that will be of interest to CCAMLR, and SCAR welcomes CCAMLR involvement in this programme. Note: the Co-Chair of Work Package 5 is Dr Edith Fanta. The EBA programme has a new web page at www.eba.aq and CCAMLR members are encouraged to visit this site.

9. Three of the SSG-LS Action Groups, CAML, SCAR-Marbin and CPRAG provide the most opportunity for direct collaboration between SCAR and CCAMLR in scientific research and will be discussed below. In addition, SCAR co-sponsors Southern Ocean GLOBEC and a new IGBP sub-programme ICED (Integrating Climate and Ecosystem Dynamics); these are also addressed briefly below.

2.2 CAML Activities

10. The Census of Antarctic Marine Life (CAML) is both a major IPY initiative and a key SCAR activity. Its objectives are to develop a robust benchmark of the distribution and abundance of marine biodiversity in Antarctic waters, against which future change in the marine environment can be assessed. Up to 16 ships are scheduled to participate in field work, with tourist and other-purpose vessels additionally participating in data gathering (see Figure 1).

11. CAML's field work started in November 2006 with the departure from Cape Town of the RV Polarstern. The objective of the first voyage was to visit the areas of the eastern Peninsula previously covered by the Larsen A and Larsen B ice shelves. Larsen A collapsed some 12 years ago, with Larsen B collapsing 5 years ago. The collapse of these ice shelves has opened up near-pristine portions of the ocean floor and enabled investigation normally possible only through small ice holes.

12. The voyage reported some 15 potentially new species of crustaceans, as well as new species related to the corals, sea anemones and jellyfish. It also proved to be a unique site for understanding how marine ecosystems in Antarctic respond to global warming.

13. During the coming 2007/08 season, CAML will undertake further research voyages. A site of particular interest to CAML on account of almost four decades of research having been carried out there is Admiralty Bay in King George Island. This site will be revisited by a multi-national research team to collect data from the deeper parts of the Bay, where least work has been conducted. Such work in the Larsen region and at Admiralty Bay will be of great value in the development of benthic bioregionalisation in the region. This can help point the way towards important areas which might warrant future consideration as legacy sites for future routine monitoring or requiring special protection.

14. An implementation plan, providing details on the specific objectives of each voyage, will soon appear on the CAML website. All vessels participating in CAML will apply agreed standard sampling protocols for all habitat types and biological realms. They will write their field data into a specially developed expedition data module called IMERS (Integrated Marine Environmental Readings & Samples) developed by the Flanders Marine Institute (VLIZ). IMERS enables easy download of voyage data into the main SCAR MarBIN portal. Standard protocols have also been set for genetic analysis and barcoding.

15. CAML co-operated with the CCAMLR-IPY Scientific Steering Committee to help extend the range of CCAMLR's pelagic research during IPY. CAML has included reference to the CCAMLR-2000 Survey protocols in the CAML pelagic protocols. Copies of the CCAMLR protocols and the Scientific Observers Manual will be placed on the CAML website www.caml.aq.

16. The CAML Scientific Steering Committee held its planning meeting in Poland in June 2007. Dr Volker Siegel attended the full CAML SSC and Dr David Ramm also attended the CAML SSC meeting during the one-day overlap with the SCAR-MarBIN SSC Meeting. Both gentlemen made valuable contributions to the meeting and provided further links between CAML and CCAMLR.

17. The majority of CAML's field surveys will be completed in the 2007/08 Antarctic season. The CAML project is scheduled to end in 2010 with a major contribution on the distribution and abundance of Southern Ocean biodiversity to the Census of Marine Life.

2.3 SCAR-MarBIN

18. The SCAR Marine Biodiversity Information Network (www.scarmarbin.be) compiles and manages existing and new information on Antarctic marine biodiversity by coordinating, supporting, completing and optimizing database networking.

19. In its first year of full operability, SCAR-MarBIN has focused on reaching a significant data mass, and a purposeful level of operability for the beginning of IPY (March 2007). A number of databases have been connected (47 datasets, 500,000 records), and can already be accessed and used by scientists. SCAR-MarBIN has achieved the setup of its web portal, which has just reached 200,000 visitors, and over 1.2 million hits since its first launch in October 2005. The SCAR-MarBIN website attracts around 2,000 unique visitors each month, who download or visualize about 800,000 records.

20. A growing peer-reviewed Register of Marine Species (RAMS) has been developed by SCAR-MarBIN and includes taxonomic information on almost 11,000 taxa. RAMS will be embedded in larger taxonomic initiatives, such as the Catalogue of Life, through Species2000 and ITIS, and already contributes to WoRMS (World Register of Marine Species, www.marinespecies.org). SCAR-MarBIN has been endorsed by the Ocean Biogeographic Information System (OBIS) as its Regional Node for the Antarctic,

taking responsibility to increase the sustainable availability of Antarctic marine biodiversity data in OBIS, which in turn provides data to the Global Biodiversity Information Facility (GBIF).

21. An Interactive Antarctic Field Guide (IAFG) will be developed as a collaborative feature at the SCAR-MarBIN webportal. The IAFG is based in the AFG built by Drs Andrew Clarke and David Barnes (BAS), which includes information on about 400 species. The IAFG will be consultable online and able to be downloaded as PDF files for use in the field.

22. Interactive Identification Keys (IIKs) will be added to the website to ease the burden on taxonomists. The keys will be based on a model developed by the University of Ghent. First taxa to be added are: nematodes, amphipods, sea urchins, ophiuroids, and ostracods. IIKS will also be made portal for field use.

23. Interactions between SCAR-MarBIN and CCAMLR include the accessibility of the historical krill dataset, the invitation to the CCAMLR Data Manager David Ramm to be part of the SCAR-MarBIN Scientific Committee, and the participation of SCAR-MarBIN in the recent Bioregionalization Workshop which was held in Brussels. Most of the benthic biology data used for validation in that workshop were extracted from SCAR-MarBIN. Dr Ramm's participation in and contribution to the SCAR-MarBIN Scientific Committee meeting in Poland was greatly appreciated

24. SCAR-MarBIN data policy protocols align with the Antarctic Treaty (Art. III.1) and IPY requirements, as well as data management protocols of GBIF and OBIS. SCAR-MarBIN's web portal provides a single, easy access point to marine biodiversity information relevant to scientific research, conservation and sustainable management purposes. SCAR-MarBIN is highly visible and influential in disseminating the data of many projects as well as graphic tools and web services.

25. Funding for SCAR-MarBIN has been extended until 2010 through the generosity of the Belgian Government.

2.4. SO-CPR Survey and CPRAG

26. The Action Group on Continuous Plankton Recorder (CPR) Research was formed during the SCAR XXIX meeting in Hobart 2006. Its purpose is to support and develop the SCAR Southern Ocean CPR Survey based at the Australian Antarctic Division. The CPR Survey is mapping the biodiversity and distribution of plankton, including krill life stages, and then using the sensitivity of plankton to environmental change as early warning indicators of the health of Southern Ocean. CPRAG has additional terms of reference to develop and maintain the SO-CPR Database and to improve access for users, and to expand and enhance the SO-CPR Survey to include more ships and repeat transects around Antarctica.

27. CPRAG has five core members: co-chairs Dr Graham Hosie (Australia) and Prof. Mitsuo Fukuchi (Japan), Prof. Dr Uli Bathmann (Germany), Dr Don Robertson (New Zealand) and Dr Peter Ward (UK), who collectively represent the countries who own the data. Additional expert members have been invited onto the AG as required. Dr Hosie has written to Dr Denzil Miller inviting a member of the CCAMLR to join CPRAG in order to provide further cross linkages and collaboration, as CCAMLR is seen as a likely major user of the data. By the end of IPY we anticipate to have France, USA and a South American consortium of Brazil, Peru, Chile, Argentina, Uruguay and Ecuador as members of the Survey and providing additional transects.

28. The data set currently holds more than 100,000 records for about 200 zooplankton species from the Scotia Arc east to the Ross Sea. The data are currently stored at the Australian Antarctic Data Centre and

SCAR-MarBIN. The SO-CPR data is the second largest data set at SCAR-MarBIN and has recorded the highest number of downloads (approximately 1.3 million) so far for 2007. The CPR database is available to assist CCAMLR with ecosystem monitoring by providing a reference for natural variability in the ecosystem as well as responses to other environmental changes, such as global warming and ocean acidification.

29. The database has also proved useful to CCAMLR with the recent CCAMLR Bioregionalisation Workshop in Brussels in August. The CPR data was one of the major data sets used for the pelagic bioregionalisation and to test the Boosted Regression Tree method developed by Drs Ben Sharp, Matt Pinkerton and John Leathwick in New Zealand for defining bioregions. Large taxonomic groups of plankton were used for this purpose. The workshop encouraged further analysis using this method at the species level and to submit working papers to the Scientific Committee. There has been insufficient time between the Bioregionalisation Workshop and CCAMLR XXVI to complete the new analyses. We will submit the results to CCAMLR at the earliest opportunity.

2.5 Expert Groups on Birds and Seals

30. SCAR has been working towards the probable merger of the birds and seals groups into a new Expert Group on Status and Trends of Top Predator Populations. The two existing Expert Groups have similar terms of reference and their combination may facilitate the exchange of information, especially with other ATS organisations such as CCAMLR.

31. The proposed Terms of Reference of the new Expert Group would be:

- a. the collation and provision of information on the status and trends of populations of specific species in the SCAR area of interest based on needs identified by SCAR or by the group.
- b. the provision of advice to ATS bodies and others as requested from time to time, as agreed by SCAR, and in collaboration with these bodies including the exchange of data.

32. A progress report on the proposed merger was presented at the SCAR Executive Committee meeting in Washington, July 2007. The Executive Committee agreed that an interim chairman should be appointed to work with the bird and seal groups and others to establish the new top predator group. The plan for the new group will be presented for consideration to the delegates at XXX SCAR in Moscow, July 2007.

33. SCAR should be able to advise CCAMLR the full details of the new Expert Group on Top Predators at CCAMLR XXVII next year. This will include how this new group can interact with CCAMLR and WG-EMM. In the meantime, SCAR has identified two experts that can assist with CCAMLR's predator workshop next year, a expert in bird ecology and a data expert. We will confirm the identity of the ecological and data experts in due course.

3. Southern Ocean Observing System (SOOS)

34. The SCAR/SCOR Oceanography Expert Group convened a meeting in Bremen October 2007 to further discuss the Southern Ocean Observing System (SOOS) initiative. SOOS was initially proposed during the SCAR XXIX Meeting in Hobart, July 2006. The purpose of the Bremen meeting (October 1-3, 2007) was to start developing a plan for a Southern Ocean Observing System (SOOS) to be presented to the wider Antarctic community at the SCAR XXX Meeting and Open Science Conference in St Petersburg July 2008. The object of a SOOS is to develop the means to observe key changes in oceanography and marine meteorology through time, to relate these to the biota and to underlying processes, and to use that knowledge and understanding as the basis for forecasting future change.

35. More than 30 experts were invited from a range of Antarctic or other international programmes/agencies, representing, physical and chemical oceanography, biology, biochemistry, glaciology and meteorology. Several SCAR programs were represented at the meeting. CCAMLR was represented by Dr Edith Fanta. The meeting acknowledged the ATCM XXX, New Dehli, April-May 2007 Resolution 3 (Appendix 1) urging the establishment of long-term scientific monitoring and sustained environmental observation in Antarctica in relation to environmental change. The grounds for the Resolution were presented by Dr David Carlson in his IPY presentation to the ATCM, and the text was developed by Parties aided by SCAR, CCAMLR and COMNAP. The Resolution supports the IPY Joint Committee's wish to see polar ocean observing systems emerge as a legacy of the IPY, and supports SCAR's efforts to develop a Southern Ocean Observing System.

36. One of the major drivers for the establishment of the SOOS is the need to establish the effects of climate change on the biota. Three key questions considered by the biologists at the SOOS meeting were:

1. What are the global change impacts on Southern Ocean ecosystems (organisms, populations, food web structures and fisheries.) Likely impacts include pH, temperature, salinity, mixed layer depth, wind field, sea ice timing and extent, and iron supply. Changes should be considered within the context of natural cycles or other anthropogenic impacts.
2. What are the feedbacks from Southern Ocean ecosystem back to climate? Potential feedbacks include DMS production, effects of algae on albedo and surface layer warming, krill affect iron cycling in the Southern Ocean.
3. How will global change alter the key role of the Southern Ocean to the global carbon cycle?

37. An initial meeting report will be produced in the near future. The first draft of the SOOS plan is expected to be produced by the end of March and circulated to the wider Antarctic community for comment. The plan will be presented for further discussion at the SCAR Open Science Conference in St Petersburg, Russia (July 2008). The final plan is scheduled for publication in September 2008.

4. State of the Antarctic and the Southern Ocean Climate System (SASOCS) - (CCAMLR-XXVI/BG/37)

38. SCAR commissioned a report on the State of the Antarctic and the Southern Ocean Climate System (SASOCS) for submission to a scientific journal. The report was produced by 17 Antarctic scientists: S. Aoki, P.J. Barrett, N.A.N. Bertler, T. Bracegirdle, D. Bromwich, H. Campbell, G. Casassa, A. N. Garabato, W.B. Lyons, K.A. Maasch, P.A. Mayewski, M.P. Meredith, C. Summerhayes, J. Turner, D. Vaughan, A. Worby, and C. Xiao. A detailed summary of this report was presented as an information paper at the ATCM XXX meeting New Dehli, April-May 2007 and is presented again as CCAMLR-XXVI/BG/37 for CCAMLR's information. Access to the original report can be obtained from the SCAR Secretariat (mds68@cam.ac.uk or cps32@cam.ac.uk).

39. This information paper provides a review of the key developments over the past two years in our understanding of physics of Antarctic climate and the role of the Antarctic climate system in the global physical climate system. By 2008 this ongoing work will incorporate analysis of the impacts of the physical system on the biota. At present it considers issues relating to ice mass balance, atmospheric temperature, atmospheric circulation, ozone hole and climate, ocean temperature and salinity, ocean circulation and sea ice, in context of the last 50-200 years and the next 100 years based on climate models. The paper also comments on the findings of the 2007 Intergovernmental Panel on Climate Change (IPCC) that relate to the Antarctic.

40. Key issues identified in the report that may be of interest to CCAMLR include:

- Superimposed on the long-term trend of post-glacial warming are millennial and finer scale oscillations whose causes are not well understood aside from those associated with the 11-year sunspot cycle.
- In the past 50 years unprecedented climatic changes cut across these trends. They include the near-surface atmospheric warming observed on the west of the Antarctic Peninsula, with associated rapid warming of the surface ocean, retreat of glaciers and the collapse of ice shelves around the Antarctic Peninsula.
- While ice is being lost from glaciers in the Peninsula and in West Antarctica, East Antarctica shows much less ice loss.
- The upper kilometer of the circumpolar Southern Ocean has warmed, as have the densest components of Antarctic Bottom Water in the Weddell Sea.
- The coastal ocean has freshened between the Ross Sea and the Southern Indian Ocean, making the Antarctic Bottom Water formed there less saline.
- Since the early 1970s sea ice has reduced west of the Antarctic Peninsula, and in the Weddell Sea. These decreases are balanced by an increase in the Ross Sea.
- Projections of Antarctic climate change over the 21st century with a doubling of CO₂ in the atmosphere indicate warming of the sea ice zone; a reduction in sea ice extent; and warming of the Antarctic interior, accompanied by increased snowfall.

41. The report draws attention to the fact that the current generation of ice sheet models is not capable of answering pressing questions about the effect of global warming on the melting of ice sheets with consequent rise in sea level. This needs to be a topic of active research.

5. SCAR's Co-Sponsored Research Programmes

42. SCAR co-sponsors both the Southern Ocean component of the Global Ocean Ecosystems Dynamics (GLOBEC) programme, and a new Southern Ocean programme – ICED (Integrating Climate and Ecosystem Dynamics). The ICED programme is a subcomponent of a new IGBP programme designated IMBER (Integrated Marine Biological and Ecosystem Research). The new ICED Science Plan can be found on the ICED web site at <http://www.iced.ac.uk/>. In many respects ICED will be the successor to GLOBEC, which is now in its analytical phase. ICED's three main objectives are:

1. to understand how climate processes affect the structure and dynamics of ecosystems in the Southern Ocean;
2. to understand how ecosystem structure and dynamics affect biogeochemical cycles in the Southern Ocean;
3. to determine how ecosystem structure and dynamics should be incorporated into management approaches to sustainable exploitation of Southern Ocean species.

6. Future SCAR Meetings

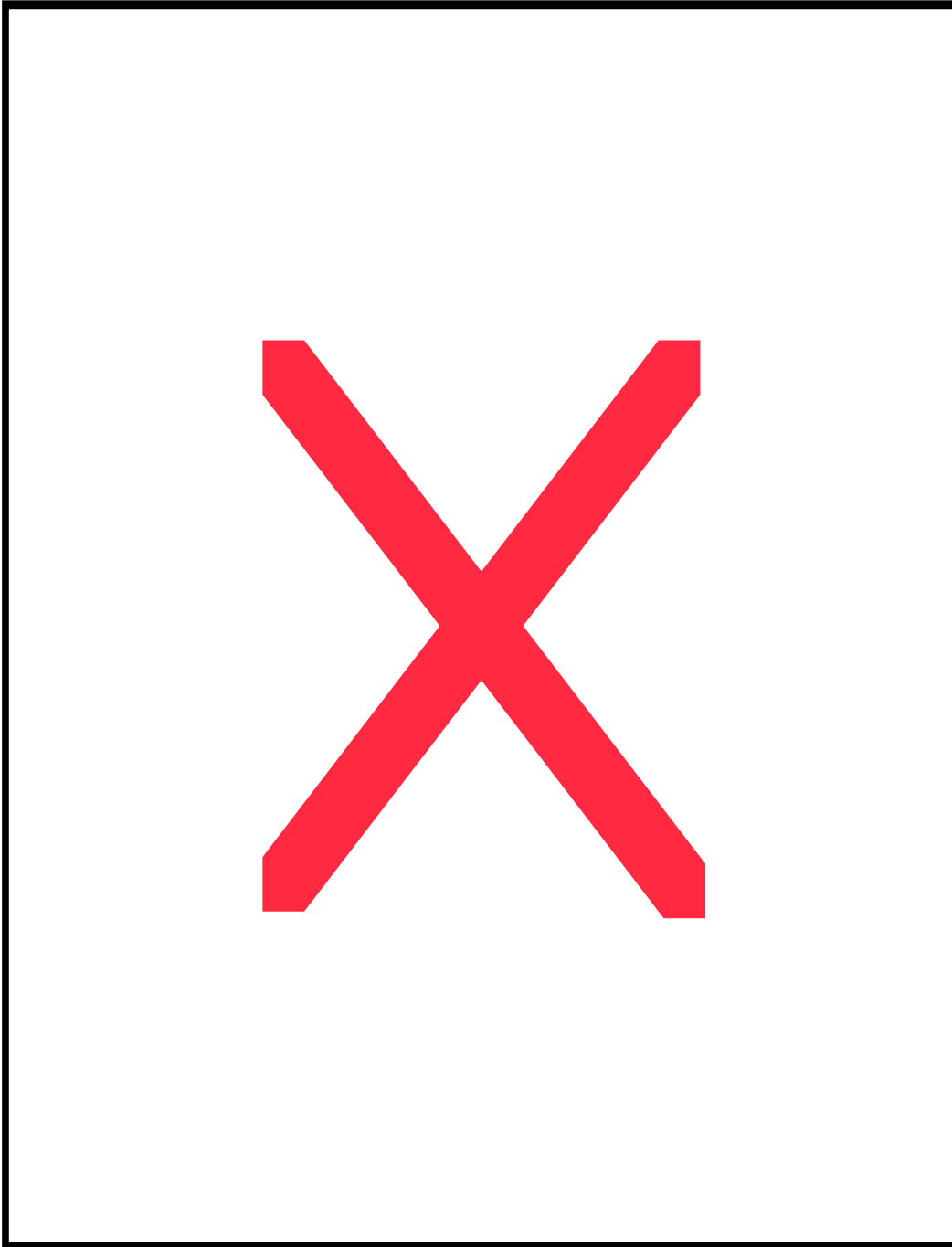
43. SCAR plans to hold the XXX SCAR meeting in Russia in July 2008, which will coincide with SCAR's 50th Anniversary celebration. The XXX SCAR meeting will have three components: (i) the SCAR Science Business Meeting (5-7 July, 2008), in St. Petersburg; (ii) the 3rd Open Science Conference (8-11 July), also in St. Petersburg; and (iii) the SCAR Delegates' Meeting (14-16 July) in Moscow. The Conference is the first of three that the IPY Joint Committee has designated to review the progress of the IPY. It will be held in conjunction with the International Arctic Science Committee (IASC), providing the opportunity for a bi-polar theme. A First Circular will be issued in October, and a web site will shortly be made available for the Conference. SCAR will again invite the Chair of the Scientific Committee of CCAMLR to be an Observer at the XXX SCAR meetings in both St Petersburg and Moscow.

44. The 10th SCAR Biology Symposium is scheduled for Sapporo, Japan, tentatively set for 26-31 July 2009. Prof. Mitsuo Fukuchi (Japan) is coordinating that symposium. Both the 3rd Open Science Conference and the 10th SCAR Biology Symposium are expected to have a strong IPY focus. SCAR welcomes CCAMLR's involvement in both meetings.

7. Concluding Remarks

45. It has been a busy year for SCAR in preparation for a number of IPY field projects. Many of these have involved direct collaboration with CCAMLR. As noted above, SCAR has participated in the CCAMLR-IPY planning meeting and the CCAMLR Bioregionalisation Workshop. In turn, SCAR has invited CCAMLR staff onto the SCAR-MarBIN Scientific Steering Committee and the Action Group on CPR Research. The SCAR Executive has welcomed the closer interactions with CCAMLR. SCAR is keen to develop further collaborations with CCAMLR, particularly research projects of mutual interest.

Figure 1. CAML Ships in IPY. Dark blue areas denote benthic sampling, following the plan at www.caml.aq. The locations are shown for each national program. The dashed lines are transects using the Continuous Plankton Recorder. The shaded red area near South America will be sampled by tourist vessels under IAATO. The darker of the two ocean colours indicates the position of the Subantarctic Front. The locations and ships are subject to change. Additional nations are providing historical data on marine biodiversity Research is governed by the animal welfare rules for each nation. All data are contributed to the Antarctic data portal www.scarmarbin.be under the data sharing agreement of IPY.



Appendix 1

ATCM XXX Resolution 3 (2007)

Long-term Scientific Monitoring and Sustained Environmental Observation in Antarctica

The Representatives,

Recalling the Edinburgh Antarctic Declaration on the IPY 2007-2008 that was agreed at ATCM XXIX, which supports the objective of delivering a lasting legacy for the IPY, and promotes increasing collaboration and coordination of scientific studies within Antarctica;

Recalling that the CEP has a continuing commitment to environmental monitoring related to the implementation of the Protocol;

Noting that the Arctic Council Ministerial Meeting of 26 October 2005 urged all member countries of the Arctic Council to maintain and extend long-term monitoring of change in all parts of the Arctic as well as to create a coordinated Arctic observing network;

Recalling the success of the CCAMLR Ecosystem Monitoring Programme in providing over two decades of circum-Antarctic data on the Antarctic marine ecosystem and biological environment;

Welcoming and supporting SCAR's proposal to establish a multi-disciplinary pan-Antarctic observing system, which will, in collaboration with others, coordinate long-term monitoring and sustained monitoring and observation in the Antarctic;

Recommend that the Parties:

1. Urge national Antarctic programmes to maintain and extend long-term scientific monitoring and sustained observations of environmental change in the physical, chemical, geological and biological components of the Antarctic environment;
2. Contribute to a coordinated Antarctic observing system network initiated during the IPY (2007-09) in cooperation with SCAR, CCAMLR, WMO, GEO and other appropriate international bodies;
3. Support long-term monitoring and sustained observations of the Antarctic environment and the associated data management as a primary legacy of the IPY, to enable the detection, and underpin the understanding and forecasting of the impacts of environmental and climate change.