

SCAR'S RELATIONS WITH PARTNERS.

Delegates are asked to note and approve developments

1. BACKGROUND

As specified in the SCAR Strategic Plan, SCAR's will foster the development of partnerships with global research organisations having an Antarctic interest, to reinforce the value of the efforts of both, and to avoid duplication.

In particular, SCAR's links with ICSU and its subsidiary and related scientific bodies continue to increase.

SCAR continues to work closely with ICSU as a member of the ICSU-WMO Joint Committee for the IPY, which steers the IPY process (SCAR's President and Executive Director are both members of the JC, along with past SCAR Vice President Jeronimo Lopez-Martinez, and the Chair of the SCAR/SCOR Oceanography Expert Group, Eberhard Fahrback).

Details of the science carried out by the programmes listed below can be found in the Annual Report (IP01).

2. ICSU

SCAR is an Interdisciplinary Body of the International Council for Science (ICSU) and to the extent possible is expected to interact with other relevant ICSU bodies.

A senior officer from ICSU, Khotso Mokhele, will attend the SCAR/IASC Open Science Conference and make an introductory statement (July 8). He will then have a lunch meeting with the SCAR President and Executive Director and the IASC President and Executive Secretary (July 9), to underline the need to cement links between ICSU, SCAR and IASC (which is Affiliated to ICSU).

During the past 2 years SCAR has led the development of a network of the 4 main ICSU bodies dealing with the polar regions. These are (i) SCAR (Antarctic), (ii) IASC (Arctic), (iii) the WCRP (World Climate Research Programme (WCRP), with its Climate and Cryosphere Programme (CliC)), and (iv) a new ICSU body - IACS (International Association of Cryospheric Sciences), which is part of ICSU's IUGG (International Union of Geodesy and Geophysics), and replaces former cryospheric bodies that had a lower profile.

The development of this network should help to ensure that all four bodies work together to achieve a more efficient and effective approach to scientific research in the polar regions, especially in the context of cryospheric sciences. SCAR already had a Memorandum of Understanding with the WCRP; it has now developed one with WCRP and IASC covering the joint sponsorship of the CliC programme. This supersedes the SCAR-WCRP Memorandum only insofar as the CliC programme is concerned (see later).

SCAR, IASC and IACS also agreed through a recent Letter of Agreement to work together on matters of common interest. Inks with IASC are covered in more details in a separate paper (WP 22).

ICSU is in the process of reviewing of its major bodies (IGBP, WCRP) and contributed to the review of ICSU's Earth System Science Programme (ESSP). SCAR is contributing to this review, and will request ICSU to ensure that the review takes account of the need for such bodies to create stronger links to ICSU's Interdisciplinary Bodies (including SCAR), to obtain full value from the investments in environmental research both globally and regionally. SCAR is a partner to some of the activities of the IGBP (International Geosphere-Biosphere Programme) (see later).

This year ICSU renewed its grant programme. SCAR applied jointly with a number of other partners (including WCRP, IASC and IACS) for €30,000 for a summer school in 2009 on the subject of improved models for ice sheet disintegration. The grant has been awarded in full. The lead SCAR group is the Expert Group on Ice Sheet Mass Balance and Sea Level (ISMSS).

Eight of SCAR's international scientific unions are members of SCAR. A ninth has applied to join (International Astronomical Union – IAU).

SCAR is also connected to some of ICSU's Interdisciplinary Bodies, notably the Scientific Committee on Oceanic Research (SCOR) and the Scientific Committee on Solar-Terrestrial Physics (SCOSTEP), of which more below. And SCAR keeps a watching brief on ICSU's Scientific Committee on problems of the Environment (SCOPE) to see if opportunities might arise for joint work.

SCAR has also circulated its Fellowship Awards announcement to ICSU's new collection of Regional Offices in Africa, Asia and South America, to attract possible candidates from non-traditional polar countries.

2. WORLD CLIMATE RESEARCH PROGRAMME (WCRP)

The July 2004 Memorandum of Understanding (MoU) with the World Climate Research Programme (WCRP) makes SCAR a co-sponsor of three WCRP programmes

- the Climate and Cryosphere (CliC) project,
- the CLIVAR/CliC Southern Ocean Implementation Panel (SOIP),
- the International Programme for Antarctic Buoys (IPAB).

Under the MoU, SCAR activities in the area of climate studies are considered as contributing to the goals of CliC, which in effect makes AGCS a WCRP co-sponsored programme, and a contributor to CliC, SOIP and IPAB. SCAR's sea ice programme, ASPECT, also becomes co-sponsored by WCRP/CliC, as does SCAR's ITASE programme on ice coring for climate.

SCAR has two members on the CliC Steering Committee (John Turner representing AGCS and Tony Worby representing ASPECT). The CliC

steering committee met in Boulder Colorado (Dec 4-8, 2006), and in Geneva (Nov 19-21, 2007).

John Turner organised the Joint SCAR-CliC-IPCM-IASC Second Workshop on Recent High Latitude Climate Change (22 - 24 October 2007, Seattle, USA) – see report in EOS, v. 89 (19) 6 May 2008, pp 177-178). The full report of the meeting is on the web as SCAR Report 32.

A WCRP/SCAR/CliC Global Prediction of the Cryosphere (GPC) Project workshop was held at BAS, 8-9 October 2007, to assess our ability to predict the evolution of the global cryosphere over the next century and to propose new research activities. The full report of the meeting is on the web as SCAR Report 31. With the expected increases in greenhouse gas concentrations over the next century we anticipate significant loss of sea ice and permafrost, along with a reduction in seasonal snow cover. However, state of the art climate models give a wide range of predictions, especially at the region scale. Improvements are needed in cryospheric models, along with better atmospheric and oceanic forcing data. There is still a large uncertainty over the amount of melting we can expect from the Greenland and Antarctic ice sheets, which makes predicting sea level rise very difficult.

SCAR and CliC jointly lead the IGOS Partners Cryosphere Theme programme, which published a Cryosphere Observing Plan (CryOS) in 2007. The Plan is accessible at the following web site [the plan can be downloaded from <http://cryos.ssec.wisc.edu/>]. The plan has been endorsed by the IGOS Partners (ICSU, the space agencies and the UN agencies) and adopted by the Group on Earth Observations, as a component of the Global Earth Observing System of Systems (GEOSS).

The Southern Ocean Implementation Panel met in Buenos Aires on 14-17 November 2006 to continue its work on scientific and technical development of Southern Ocean observing systems, and plans for the IPY programme on Climate of the Antarctic and Southern Ocean (CASO). CASO is a precursor to the Southern Ocean Observing System (SOOS) (see item 4, below).

The IAPB deployed numerous drifting buoys in the Southern Ocean. It will meet next in July in St Petersburg.

3. INTERNATIONAL GEOSPHERE-BIOSPHERE PROGRAMME (IGBP)

3.1 Global Ecosystems Dynamics programme (GLOBEC)

In October 2004, SCAR signed a Letter of Agreement with IGBP's Global Ecosystems Dynamics programme (GLOBEC), through which SCAR became a co-sponsor of the Southern Ocean GLOBEC (SO-GLOBEC) programme and in particular its Integration and Synthesis phase. SO-GLOBEC aims to advance understanding of the Southern Ocean ecosystem, especially in relation to krill. The field phase of the programme ended in 2007, and is followed by an integration and synthesis phase until 2009. The end product will be of value to CCAMLR.

3.2 Integrated Climate and Ecosystem Dynamics in the Southern Ocean (ICED)

Along with SCOR, SCAR is a co-sponsor of ICED is a project of IGBP's Integrated Marine Biogeochemistry and Ecosystems Research programme (IMBER), and replaces and combines Southern Ocean JGOFS (now completed) and Southern Ocean GLOBEC. ICED is now a major IPY programme. ICED aims to predict i) how the diverse Southern Ocean ecosystems will respond to climate change and ii) the impacts of marine ecosystem change on the Earth System. The end product will be of value to CCAMLR. As a first step, a picture of Southern Ocean fieldwork is provided through the interactive ICED IPY fieldwork map on the ICED website (www.iced.ac.uk), where the ICED Science Plan can also be found. ICED is a contribution to SCAR's EBA programme.

3.3 Past Global Change (PAGES)

There is a natural linkage between the activities and objectives of IGBP's Past Global Change Programme (PAGES) and the SCAR ACE programme. The linkage between these two has now been formalised.

SCAR and the IGBP PAGES programme also co-sponsor IPICS (International Partnership in Ice Core Sciences), which is expected to be adopted as an Expert Group by the SSG-PS in St Petersburg.

4. SCIENTIFIC COMMITTEE ON OCEANIC RESEARCH (SCOR)

The joint SCAR/SCOR Oceanography Expert Group met in Bremen in October 2007 and will meet in St Petersburg in 2008. Its focus is on developing a plan or a Southern Ocean Observing System (SOOS), that will be a contribution to the Global ocean Observing System (GOOS), and the Pan Antarctic Observing Network (PantOS). The EG has a new membership consistent with its new focus. The EG has links to all other bodies with Southern Ocean interests.

SCOR and SCAR both jointly sponsor the International Antarctic Zone (iAnZone) programme, which brings principal investigators together to plan oceanographic research especially around Antarctic margins. The focus of iAnZone during the intersessional period was on the development of the IPY programme for a "Synoptic Antarctic Shelf-Slope Interactions Study" (SASSI), in which SCAR has an interest in that it relates closely to the development of the SOOS.

The SCAR Executive Director attends biennial meetings organised by SCOR to bring together the many groups and programmes dealing with one or other aspect of ocean research. The second such meeting took place in London in December 2006.

SCOR will not be able to send a representative to the Delegates meeting.

5. SCIENTIFIC COMMITTEE ON SOLAR-TERRESTRIAL PHYSICS (SCOSTEP)

SCAR has a representative on the SCOSTEP Bureau, to ensure effective linkages between SCAR and SCOSTEP where SCAR is fostering the use of Antarctica as a platform for observations of Geospace. This links SCAR's ICESTAR programme to SCOSTEP activities, especially the programme on Climate and Weather of the Sun-Earth System (CAWSES).

SCOSTEP has the long-term responsibility to promote international interdisciplinary programs in solar-terrestrial physics. SCOSTEP will continue to work within the ICSU framework to encourage cross-disciplinary conferences and to facilitate cross-project cooperation and multi-national research collaboration; an International CAWSES symposium was held in Kyoto, Japan, on 23-27 October 2007. SCOSTEP will continue conducting programs with the scientific goal of advancing quantitative understanding of coupling mechanisms responsible for the transfer of mass and energy throughout the solar-terrestrial system. The practical goal is to improve predictability of the effects of the variable components of solar energy and disturbance on the terrestrial environment. These disturbances range from interference with satellite and aircraft communications systems, to blackouts of electric power grids.

The CAWSES program is now in the final year of its original 5-year plan (2004-2008). During the past 4 years, CAWSES has intensified its effort to grow into a really international program. It has established regional offices in Brazil, France, Germany, India, Japan, and Taiwan, and involved scientists from 19 countries. It holds its own regular scientific workshops as well as special sessions in conjunction with other national and international conferences. At the Bureau meeting in 2006, the Bureau strongly endorsed the extension of the CAWSES program for the period of 2008-2012.

6. CODATA PROGRAMME AND IPY DATA LINKS

Links are being encouraged between ICSU's data and information management group (CODATA), and JCADM (SCAR/COMNAP). The JCADM Chief Officer represented JCADM at the 20th International CODATA Conference: Scientific Data and Knowledge within the Information Society in Beijing, China, in October 2006. He gave an oral presentation with the title: Antarctic and Southern Ocean Data Management by the Joint SCAR/COMNAP Committee on Antarctic Data Management. At that meeting, CODATA established the International Polar Year Data Policy and Management Subcommittee Task Group. The membership of this Task Group is almost identical to the membership of the IPY Data Subcommittee. The link to SCAR and JCADM is through the JCADM Chief Officer, who is one of the co-chairs of the Task Group. The Task Group held its first meeting in Paris, France, March 2007, at the official opening event of the IPY. Other meetings will be organized in conjunction with the SCAR business meetings in St.

Petersburg, Russia, July 2008 and the CODATA 21 Conference in Kiev, Ukraine, October 2008.

JCADM is also much involved with the development of the data and information plan and policy for the IPY, with the JCADM Chief Officer acting as Co-Chair of the IPY Data Subcommittee.