

The International Council for Science

ISSN 1998-0337

SCAR **bulletin**

No. 176 November 2010

Report of the XXXI SCAR Delegates Meeting, Buenos Aires, Argentina (9-11 August 2010)



Published by the

SCIENTIFIC COMMITTEE ON ANTARCTIC RESEARCH

at the

Scott Polar Research Institute, Cambridge, United Kingdom

Report of the XXXI SCAR Delegates Meeting, Buenos Aires, Argentina (9-11 August 2010)

In Attendance:

Executive Committee: *M.C. Kennicutt (President), A. Huiskes (Vice President), S. Marensi (Vice President), A. Meloni (Vice President), R. Ravindra (Vice President), M. Sparrow (Executive Director)*

(Apologies from C. Rapley (Past President))

Delegates: *S. Marensi (Argentina), V. Alder (Argentina), R. Vincent (Australia), J. Gunn (Australia), C. DeBroyer (Belgium), A. Rocha-Campos (Brazil), J. Simões (Brazil), C. Pimpirev (Bulgaria), N. Chipev (Bulgaria), S. Bigras (Canada), S. Ommanney (Canada), L. Bravo (Chile), J. Retamales (Chile), H. Yang (China), W. Yong (China), J. Olmedo (Ecuador), B. Caceres (Ecuador), M. Poutanen (Finland), R. Schlich (France), M. Lebouvier (France), K. Locht (Germany), G. Heinemann (Germany), R. Ravindra (India), R. Sharma (India), A. Meloni (Italy), C.A. Ricci (Italy), T. Yamanouchi (Japan), S. Imura (Japan), B-K. Park (Korea), Y. Kim (Korea), A. Samah (Malaysia), S. Aishah-Alias (Malaysia), A. Huiskes (Netherlands), T. de Bruin (Netherlands), B. Storey (New Zealand), H. Loeng (Norway), J. Veerman (Peru), V. Kotlyakov (Russia), M. Moskalevsky (Russia), S. Chown (S. Africa), I. Ansorge (S. Africa), J. López-Martínez (Spain), J.A. Flores (Spain), M. Friberg (Sweden), R. Wieler (Switzerland), O. Kuzko (Ukraine), N. Owens (UK), M. Siegert (UK), M.C. Kennicutt (USA), T. Wilson (USA), B. Grillo (Uruguay), J. Abdala (Uruguay)*

(Apologies from H. Declair (Belgium), K. Strand (Finland), C Howard-Williams (New Zealand), J-G Winther (Norway), R. Villanueva (Peru), J. Beer (Switzerland), V. Lytvynov (Ukraine))

Union Members: *J. Storey (IAU), I. Allison (IUGG), V. Kotlyakov (IGU), C.A. Ricci (IUGS), M. Lebouvier (IUPS)*

(Apologies from M. Clilverd (URSI))

Associate Members: *J. Xavier (Portugal)*

(Apologies from T. Negoita (Romania))

Secretariat: *M. Sparrow (Executive Director), R. Badhe (Executive Officer), C. Summerhayes (Advisor)*

Local Organising Committee: *S. Marensi (Argentina)*

Observers: *J. Baeseman (APECS), R. Ravindra (CEP, COMNAP), M. Sparrow (SCOR), I. Allison (IACS, ICSU), V. Rachold (IASC), E. Marschoff (CCAMLR), L. Geller (US PRB), P. Van Klaveren (Monaco), A. Vilorio (Venezuela), J. Alfonso (Venezuela), J. Lee (South Africa), A. Fountain (Portland LOC), S. Rintoul (Australia)*

(Apologies from E. Urban (SCOR); M. Rogan-Finnemore (COMNAP); D. Chen (ICSU); N. Gilbert (CEP))

SCAR Subsidiary Groups:

SSG-GS: A. Capra (Italy); SALE: M.C. Kennicutt (USA); ACE: C. Escutia (Spain), R. DeConto (USA)

SSG-LS: K. Conlan (Canada); EBA: K. Conlan (Canada)

SSG-PS: M. Candidi (Italy); AAA: J. Storey (Australia); AGCS: M. Candidi (Italy); ICESTAR: M. Candidi (Italy)

SCATS: S. Chown (S. Africa)

SCADM: K. Finney (Australia)

SCAGI: M. Sparrow (SCAR)

(Apologies from H. Brotsma (SCAGI); A. Weatherwax (ICESTAR); A. Naveira (AGCS))

Explanatory Notes:

(i) Note that several names appear more than once in the attendees list as some people represent more than one body;

(ii) Papers for the meeting are available from the SCAR website:

<http://www.scar.org/members/scarmeetingreports/xxxibuenosaires10/meetingpapers.html>

(iii) WP refers to Working Paper, IP to Information Paper.

Appendix: List of Acronyms

1. Opening Business

1.1 Welcome

M Kennicutt II, President of SCAR, formally opened the meeting at 0830 on 9th August and welcomed Delegates and Observers to Buenos Aires and the XXXI SCAR Delegates' meeting. The President set the stage for the joint meeting with COMNAP.

1.2 Joint Session with COMNAP

At 0850 Delegates moved to join the 22nd AGM of COMNAP, for a report on COMNAP's new directions, by the COMNAP Chair, J Retamales; a welcome by the Minister of Foreign Affairs of Argentina; and two SCAR lectures on scientific developments with implications for infrastructure and national operators:- (i) S Rintoul (Australia), on the *Southern Ocean Observing System (SOOS)*; and (ii) K Finney (Australia), on *A Strategy for Data and Information Management in the 21st Century*. This joint meeting of SCAR and COMNAP reflected the desire of the two organisations to work more closely together, as manifest in the formation of a joint Action Group that met in Baltimore in March 2010. After a joint morning coffee session, the Delegates returned to the SCAR meeting room at 1100.

1.3 Opening Remarks (IP 1)

The President briefly reviewed SCAR's Annual Report [IP 1], on 'The State of SCAR', summarising SCAR's challenges and successes since XXX SCAR, especially publication of the Antarctic Climate Change and Environment (ACCE) report. The period since XXX SCAR had been extraordinarily busy and productive. In addition, the SCAR Secretariat underwent several changes, with the retirement of the Executive Director, Colin Summerhayes, and his replacement by M Sparrow (UK), followed by the replacement of M Sparrow as Executive Officer by R Badhe (UK/India). He also laid out the main tasks and priorities for the current meeting, especially approval of the Strategic Plan for 2011-2016.

In addition to the SCAR lectures on SOOS and on Data and Information Management, given to the joint session of SCAR and COMNAP, there were lunchtime lectures on "Astronomy and Astrophysics from Antarctica (AAA)", by J Storey (Australia), Leader of the AAA Scientific Research Programme (SRP), and on "Biodiversity and Conservation" by S Chown (SAfr), Chief Officer of the Standing Committee on the Antarctic Treaty System, and winner of the 2009 Martha Muse Award. Delegates were also shown a screening of the film "365 Days Under the Antarctic Ice" produced by R Schlich (Delegate for France) based on his experiences in the IGY 1957-58, with an English translation partially funded by SCAR.

1.4 Adoption of the Agenda and Timetable (WPs: 1, 2, 3, 4)

Delegates adopted the draft agenda [WP 1], the draft annotated agenda [WP 2], the list of documents [WP 3], and the draft timetable for the meeting [WP 4].

Delegates approved of the appointment of S Marensi (Arg) to chair the meetings of the Delegates Committee on Scientific Affairs and of A Meloni (Ita) to chair the meetings of the Delegates Committee on Outreach and Administration. These two

committees met in parallel session. The assignment of agenda items to the Plenary and the two Delegate Committees is summarized in the timetable [WP 4].

2. Membership

In accordance with the Rules of Procedure, Delegates of Associate Members and Observers left the plenary session during the discussion on the admittance of new Members, and the representative of the applicant (Monaco) left while their case was considered.

2.1 Application for Associate Membership (WP 5)

The papers for this application were distributed with *SCAR Circular Letter 783*. The Observer from Monaco, P Van Klaveren presented the application for Associate Membership of SCAR [WP 5].

Delegates discussed the application in closed session and voted to accept Monaco as an Associate Member of SCAR. The Representative from Monaco rejoined the Plenary, and Monaco was welcomed as an Associate Member. Several countries expressed their support of this application and congratulated Monaco on their successful application for membership. The President welcomed Monaco to the SCAR family.

2.2 Possible future applications

Delegates noted that discussions about membership have been held in the past with Austria, Belarus, Czech Republic, Greece, Hungary, Slovenia and more recently Venezuela, and that such discussions should continue, led by the Secretariat. It was noted that Venezuela had sent two observers to the Delegates' meeting.

Action: Secretariat to continue discussions with potential new SCAR members and report on progress to EXCOM 2011.

3. SCAR Officers

3.1 Notification of elections of two Vice-Presidents

The Executive Director reminded Delegates that the Offices of two Vice-Presidents (S Marensi and A Meloni) would fall vacant at the end of the meeting, the incumbents having completed their terms of Office. The Secretariat reminded Delegates of the SCAR election procedures. Subsequently, the Delegates elected two Vice Presidents for the period 2010-2014: Y Kim (Korea) and S Marensi (Argentina). S Marensi was elected as Vice-President for a second term.

3.2 Appointment of Standing Finance Committee

The Standing Committee on Finance comprised S Marensi (Chairman, Argentina), R Dietrich (Germany) and T Wilson (USA). Delegates appointed the Vice President for Finance (A Huiskes) to replace S Marensi, and appointed two additional volunteers, J Xavier (Portugal) and L Bravo (Chile), to augment the Standing Committee on Finance for this meeting and so form the XXXI SCAR Finance Committee. J Xavier (Portugal) and L Bravo (Chile) were subsequently elected to the Standing Committee for Finance, replacing R Dietrich and T Wilson, who rotated off.

Action: For future Delegates meetings the Finance Committee will be assembled two months prior to the meeting to allow time for preparation of financial summaries and development of budgetary scenarios for Delegate consideration. This will require that all requests for funds from subsidiary bodies be available at least two months in advance of the Delegates meetings.

4. SCAR Strategic Plan

4.1 Revising the SCAR Strategic Plan (WP 6; IP 2)

The President reminded Delegates of the need to update the current Strategic Plan, which expires in 2010, with a new version covering the period 2011-2016 [WP 6], and described the process that was initiated by EXCOM in 2009. This led to a strategic planning meeting being held in Cambridge on January 14-15, 2010, followed by a consultation with National Committees and Delegates and the wider SCAR community. A key document that informed development of the SCAR Strategic Plan was the external review of SCAR's performance under the chairmanship of Dr P. Smith on February 2-3, 2009. The review [IP 2] was positive and its recommendations provided guidance for minor adjustments rather than a redirection of SCAR in the Strategic Plan 2011-2016. The end result is the draft Strategic Plan for 2011-2016 [WP 6]. It is expected that the plan will be fully approved by January 1, 2011. Consultation will be completed by mid December 2010, with an interim version ready for final comment by November 1st.

S Marensi led a discussion in the Delegates Committee for Scientific Affairs on the draft Strategic Plan for 2011-2016.

Delegates considered the several questions posed by EXCOM prior to the meeting about the contents of the Strategic Plan. The following points emerged from discussion:

- (i) The current version of the Plan was well written and additional suggested changes were relatively minor.
- (ii) It would be good to see a stronger link to the work of the IPCC.
- (iii) The report should make clear that a long-term sustained observational network to underpin climate research is needed. There should be a separate section on the need for long-term observations.
- (iv) The Executive summary is too long and should be reduced to one page if possible. Footnotes should go into an Annex.
- (v) The document should be published in different forms for different audiences: one with detailed annexes containing the footnotes, and one without (for policy makers).

For the long version, annexes could be added with details of the main scientific programmes (as in the previous plan) and lists of the current subsidiary activities.

Delegates approved the plan in principle, pending editorial and other minor changes by EXCOM and the Secretariat.

Action: Delegates to provide the comments on the Strategic Plan in writing to the Secretariat no later than 1st October 2010. A revised plan will be developed by November 1, 2010 and circulated for final comment by December 1, 2010. The

Final Strategic Plan is to be produced by December 15, 2010 and made widely available. The Secretariat will develop various versions of the plan such as a short, summary glossy 4-fold flier. The final plan will be compiled by an editor and a cover and illustrations produced for final production. The final version of the Strategic Plan to be tabled for endorsement by the Delegates in 2012 but SCAR will operate under the plan beginning January 1, 2011.

5. Reports, Recommendations and Reviews of SCAR Science Groups (SSGs)

S Marensi introduced this item. He reminded Delegates of the need to appoint up to four representatives per Member to each SSG to ensure that SCAR operates effectively and represents the interests of each Member.

Action: The SCAR President/Secretariat to write to national committees by the end of the year reminding them of the importance of nominating representatives to the SSGs.

M Kennicutt reminded Delegates that the SSGs were the incubators of the next generation of scientific activities that would be developed within SCAR and that the Delegates' Committee on Scientific Affairs (DCSA) was the venue for discussing these future directions and approving programmes that would ensure maintenance of SCAR's leadership in Antarctic science. He encouraged the Committee to think strategically and ensure that SCAR's programmes were in concert with all aspects of SCAR's mission. He also asked the Committee to carefully consider the scientific aspects of the new Strategic Plan especially reviewing the Scientific Research Programme (SRP) Planning Groups that will develop the next generation of SCAR Scientific Research Programmes. He indicated that this transition to the next marquee scientific programmes was a critical stage for SCAR. SALE has ended. ICESTAR has become an Expert Group and been replaced by the SRP AAA. The other three SRPs (AGCS, ACE and EBA) will conclude in 2012 or 2013. The strategy is to have an orderly replacement of SRPs with previous programmes phasing out as new initiatives begin.

The President also asked the DCSA to consider how best to organize the biennial SCAR meetings to be as efficient and effective as possible and proposed that a small group be formed to examine and consider possible alternatives after the Delegates meetings. He also asked the DCSA to consider if the present cycle of meetings, with a biennial OSC and quadrennial Earth Sciences, Glaciology and Biology Symposia is most effective. An added complication has been the development of the three IPY conferences (2008, 2010, 2012). In addition he noted that there are also large polar sessions during the meetings of EGU, AGU and IGS. The Delegates Committee on Scientific Affairs was asked to consider these matters and provide advice.

Regarding the Open Science Conferences, it was agreed that fewer meetings might be desirable and that they be more in-depth and specialised. It was also recognized that the Open Science Conferences have been effective in bringing the community together, encouraging cross-disciplinary linkages, and were especially appreciated and useful for students and early career scientists. One model suggested was having the OSCs every four years and smaller specialized meetings in between. It would be useful to include sessions designed to provide advice for SCAR on future directions in Antarctic science (proposed in the draft Strategic Plan). Rather than simply holding

its own specialized meetings, SCAR could co-sponsor polar sessions at AGU, EGU, IGS and IPA. In thinking about the timing of its meetings, SCAR needs to recognize the seasonal problem caused by some countries having bipolar researchers who, for example, could not attend SCAR meetings because they were in the field in the Arctic. It was agreed it was good to tie the OSCs to the Delegates' meeting to encourage Delegates to 'see' the science. It was also recognized that though there had been more meetings than usual during the IPY, the IPY conferences would end in 2012.

Some Delegates felt that the present arrangement, with Science Business meetings followed by OSC and Delegates meetings, meant too long a period away from the office and could be shortened. However, having the three sets of meetings together is economically efficient. It was noted that many of the papers for the Delegates' meeting are basically information and could be read rather than discussed. The Delegates meeting could be shortened to two days and the OSC to three days, with the three meetings running continuously through the currently intervening weekend to compress the schedule.

***Action:* An Action Group will be formed to provide advice on how best to organize the biennial SCAR meetings so they are as efficient and effective as possible. The frequency of meetings and a 10-year strategic plan integrating all SCAR science activities into a cohesive structure for optimal impact will be considered within the context of other external meetings of relevance to polar science. The AG is to report recommendations to the next EXCOM meeting for consideration.**

Background information on progress in the SSGs and the Standing Committee on Antarctic Data Management (SCADM) was provided in the Annual Report for 2009 [IP 1]. Immediately prior to the meeting, Delegates were advised that copies of the reports of the three SSGs that met between July 30 and August 2, 2010 [WPs 7, 8, and 9] were available on the SCAR website. The report on the activities of SCADM was previously posted [WP 10]. These reports contained Recommendations to be considered by the Delegates if they addressed National Committees or organizations external to SCAR.

Delegates reviewed the operation and progress of the SCAR SSGs and SCADM / SCAGI, based on the reports of the Chief Officers under the following agenda items, and decided what changes, if any, needed to be made. The following general Actions were noted:

***Action:* SSG SC Chief Officers are to provide written notification, once the biennium budget is approved by the Delegates, to proponents for each budgeted activity within two months or less of the end of the Delegates meeting indicating budgets. This correspondence is to be copied to the Secretariat.**

***Action:* The Secretariat and EXCOM will explore mechanisms to provide funds for cross-SSG activities external to SSGs' budgets to encourage cross-linkages and to be awarded on a competitive basis.**

***Action:* All SSGs are to provide comprehensive reports using a new template designed by the Secretariat, two months in advance of the SCAR meeting. The SSG business meetings at the SCAR biennial meetings should be used to refine these reports, consider last minute items, and develop final budgets and information for the Delegates. These reports are to provide a budget analysis**

including reasons for under-spending. The “no carry forward beyond biennial budgets” will be strictly enforced. If actions are incomplete, funds must be re-applied for and will be considered with all other budget requests in the following biennium budget discussions. Chronic under-spending may result in reduced future budgets.

***Action:* The Secretariat will provide guidance and a template to the SSGs on how to present internal and external recommendations.**

***Action:* SSG COs will review, prior to the EXCOM meeting in 2011, all outstanding recommendations terminating those no longer needed, and report this to the Secretariat for communication to the EXCOM.**

5.1 Report of SSG Geosciences (WP 7; WP 7b; WP 19a; IP 1)

The Chief Officer (A Capra, Italy), presented a summary of the report of the SSG on Geosciences [WP 7] as the basis for discussion, noting that a major future commitment is the 11th SCAR International Symposium on Antarctic Earth Sciences (ISAES) in Edinburgh (July 10-16, 2011). Officers of the SSG include Phil O'Brien (Australia) as Deputy CO, and Mike Hambrey (UK) as Secretary.

SSG-GS communicates with its community through the GeoReach Newsletter. A website dealing with a general explanation of the geology of Antarctica (for educational purposes) is under review.

One Action Group (Sub-Ice Geological Exploration) was ended, and a new one was created, on Acquisition of Multibeam Bathymetric Data.

The Cold Seeps and Hydrothermal Vents in the Antarctic (SAVANT) Action Group is shared with SSG-LS. A paper was delivered at the CCAMLR Vulnerable Marine Ecosystems workshop in La Jolla, USA (August 2009) setting out methods for detecting seeps and vents by physical means and a classification for different indicators. The workshop requested the preparation of a field guide for seep and vent organisms. Activity will increase from February 2011.

Steady progress has been made by most of the other Action and Expert Groups. These include the Action Group on GPS for Weather and Space Weather Forecasting, which is joint with the SSG-PS, and the following Expert Groups: GIANT (Geodetic Infrastructure of Antarctica); EGPPE (EG on Permafrost and Periglacial Environments); IBCSO (International Bathymetric Chart of the Southern Ocean); and ADMAP (Antarctic Digital Magnetic Anomaly Project). A potential problem was noted with the IBCSO, where funding for the scientific coordinator had ceased. However, further discussions between the Executive Director and German representatives revealed that Germany were confident a solution would be found, though it may mean a few months delay in the work of IBCSO.

The SSG is proposing an extension to the Programme Planning Group on Solid Earth Responses and Influences on Cryospheric Evolution (SERCE), to enable an SRP proposal to be submitted to the SCAR meeting in 2012. SERCE will synthesize and interpret the extensive new data sets obtained during IPY by the international Polar Earth Observing Network (POLENET) geophysical sensor deployments. SERCE plans to promote communication and coordination with other international groups investigating polar ice mass change, glacial isostatic adjustment, and ice sheet contributions to global sea level rise.

Aside from the ISAES meeting in 2011, the SSG intends to contribute to the International Geological Congress planned for Brisbane, Australia, in 2012.

It was noted that health problems of one of the main proponents meant that SERCE was behind schedule. Delegates noted that SSG-GS did not spend large amounts of its prior allocation, raising questions as to the group's effectiveness. Delegates commented that the report needed to be more detailed and wanted more explanation of what science had been achieved, how the money had been spent, what was planned and how it would be funded. Significant amounts of unspent funds had been made available to pay for the travel grants for young scientists to attend the OSC and for the ISAES meeting in 2011.

Action: SERCE leadership (A Capra and T Wilson) to initiate discussion with ISMASS and their respective SSGs (K van der Veen, C Hulbe and T Yamanouchi) about the roles of both in studying ice sheet mass balance and sea level and report back to EXCOM in 2011.

See Actions above to improve SSG reporting and accountability.

5.2 Report of SSG Life Sciences (WP 8; WP 19b, 19c; IP 1; IP 3)

The Chief Officer, K Conlan (Can), started by presenting the two new proposed Programme Planning Groups (PPGs) – Antarctic Ecosystems: Adaptations, Thresholds and Resilience (AntETR) and State of the Antarctic Ecosystem (AntEco). AntETR will examine the current biological processes in Antarctic ecosystems, to define their tolerance limits and thereby determine resistance and resilience to change. AntEco is designed to focus on patterns of biodiversity across terrestrial, limnological, glacial and marine environments within the Antarctic, sub-Antarctic and Southern Ocean regions and to provide the scientific knowledge on biodiversity that can be also used for conservation and management.

The reports were detailed and demonstrated that a good deal of thought and work had already gone into these by the biology community. The Delegates approved the formation of the two PPGs.

K Conlan noted the success of the SCAR Biology Symposium in Sapporo in July 2009, noting in particular that Japan had been proactive in attracting significant external funding and that a good deal of capacity building had been achieved. Spain was selected to host the SCAR XI Biology Symposium in 2013.

The Expert Group on the Continuous Plankton Recorder (EG-CPR) has produced the Southern Ocean Zooplankton Atlas, which will enable monitoring and prediction of zooplankton changes. The EG-CPR will be an important part of the Southern Ocean Observing System (SOOS) and provide a link to CCAMLR. The EG-Birds and Marine Mammals is establishing links with CCAMLR and SOOS through its top predator-tracking database. The EG-Human Biology and Medicine has only a limited membership but is scientifically active. Closer links between the SCAR and COMNAP human biology and medicine groups are being explored and possible joint sponsorship is being discussed.

Action: The SCAR President and Secretariat will write to National Committees before the end of the year reminding members to nominate someone to be their national representative on the Human Biology and Medicine group.

The IPY programme Census of Antarctic Marine Life will end this year (2010). It will synthesize its achievements in a special science publication and a video. It has been highly successful and has left a significant legacy.

The SSG-LS will sponsor a workshop on King George Island to establish the scope of current and future research and develop a strategic plan for handling future collaborative efforts there. SSG-LS is also forming two additional cross-linkages (in addition to its two current cross-linkages with the SSG-PS and GS): (1) ATHENA, an Expert Group on subglacial lake exploration and (2) a cross-Action Group with the SSG-PS on Ocean Acidification. Further cross-linkages with both PS and GS will be established through its two proposed PPGs.

The important work of SCAR MarBIN was highlighted and in particular the shortfall of funds that will occur in the period 2011-2015.

Action: The SCAR President will issue a letter urging National Committees to recommend that their national funding agencies consider making a contribution to SCAR-MarBIN for the period 2011-2015.

K Conlan noted that LS was heavily involved in the production of the ACCE report. She also introduced the finalised version of the 'Code of Conduct for Use of Animals for Scientific Purposes in Antarctica', which, after some minor revisions made by SSG-LS, was approved by the Delegates.

Action: The Secretariat to widely circulate the 'Code of Conduct for Use of Animals for Scientific Purposes in Antarctica' (CoC), encourage SCAR members to bring their attention to the CoC and urge them to follow the guidance provided. National Committees will be asked to support and widely circulate the CoC and request their ATCM delegations to support the SCAR submission of the CoC to the ATCM in 2011.

K Conlan noted that there was an increased demand on the SSG budgets, partly because of the number of new cross SSG groups. She also pointed out there will be a major CPR meeting in November 2010 that will utilize any remaining SSG-LS budget for 2010.

5.3 Report of SSG Physical Sciences (WP 9; IP 1, IP 26, IP 27)

The Chief Officer (at the meeting, M Candidi, Italy) presented a summary of the report of the SSG Physical Sciences [WP 9], as the basis for discussion. The importance of the ISMASS programme and the finalisation of the ISMASS Science Plan (http://www.scar.org/publications/reports/Report_38.pdf) were underlined. The ISMASS leadership has been extended to C Hulbe and F Navarro, the latter who is also a member of IASC's Cryosphere Working Group. F Navarro will present a revised Terms of Reference and proposal for a joint SCAR-IASC ISMASS group at the IASC WG Meeting in Potsdam, 12-14 Jan 2011, to ensure connection with the Arctic Community.

The formation of a joint Action Group ECA (Environmental Contamination in Antarctica) with SSG-LS, to include biological aspects of Antarctic contamination, was approved after a presentation by R Bellerby to both SSG-PS and SSG-LS. The SOOS design plan, led by the SCAR/SCOR Expert Group on Oceanography, is open for comment until October 1st 2010 (www.scar.org/soos). The Operational Meteorology group reported that, since September 2009, there are two radio-sonde launches per week from Marambio; this is in part a product of the recommendations

on King George Island activities. The Action Group Polar Atmospheric Chemistry at the Tropopause (PACT) developed a database relevant to their new definition of the chemical tropopause; the AG will disband after publication of their results. IPICS plans extension of the scope of the Greenland NEEM project to encompass the last interglacial period in ice cores from both hemispheres. The potential for a new high-resolution Antarctic record at comparable resolution with the NEEM core over a similar period is being considered.

The Action Group GPS for Weather and Space Weather Forecasting (GWSWF) is exploring synergies with the GIANT and POLENET groups of SSG-GS; ICESTAR is considering ways to interact with GWSWF, generating joint scientific objectives. This is again an effect of the cross-SSG meetings initiative.

SSG-PS iterated the need for National funding agencies to continue their support of existing geospace observatories and equipment deployed during IPY 2007-2009, to avoid interruptions of data streams and downgrading in their maintenance.

The Delegates approved plans for a new Programme Planning Group, Past and Future Change of the Antarctic Environment (PACE) that would address important questions of how the Antarctic climate system will evolve over the next century in the light of our knowledge of past climate as determined from the *in-situ* data and paleoclimate record.

5.4 Reports on SCADM and SCAGI (WP 10, 27; IP 1; IP 4)

The Chief Officer, K Finney (Austral), presented a summary of the report of SCADM's activities and plans [WP 10, IP 4a], highlighting implementation of the new SCAR Strategy for Data and Information Management (IP 4b) as approved by EXCOM in 2009, as the basis for discussion. The Strategy's vision is to build an Antarctic Data Management System (ADMS), capable of supporting interdisciplinary Antarctic science and SCAR activities within the Antarctic Treaty System. The ADMS should be viewed as a science enabler.

To realise its strategic data management vision, SCAR has developed a roadmap to action recommendations in the DIMS in the form of a Data and Information Strategy Implementation Plan. This consists of three over-arching projects, each of which has one or more sub-tasks:

- *Project 1: Interoperable Data Repository Network*
Goal: To demonstrate a distributed, interoperable network of polar data centres and institutions capable of interchanging data online, according to a specified set of domain and IT standards.
- *Project 2: Improving The Relevance And Utility Of SCAR Products*
Goal: To improve the scientific relevance, utility and overall community governance of products that are “badged” and “marketed” as SCAR products.
- *Project 3: Polar Information Commons*
Goal: To work with Arctic colleagues to help build the Polar Information Commons (PIC) (which is essentially an extension of the SCAR Data Repository Network outlined in project 1).

As part of implementation, K Finney presented a data policy [IP 4c] in support of its data and information strategy. The Policy formalises the SCAR approach to data sharing as being full, free and open. Enshrined in the Policy is also the requirement

for SCAR projects to create metadata (descriptive) information for all datasets generated in the course of a project and for that metadata to be deposited, as a minimum, in the Antarctic Master Directory (AMD). All nations affiliated with SCAR are also urged to establish a National Antarctic Data Centre (NADC), or appoint an existing national institution with appropriate capabilities, to act as the NADC. All SCAR-sponsored projects are also requested to develop data management plans as part of project planning. Lastly, SCAR data providers and users are encouraged to adhere to the standard scientific practice of acknowledging (i.e. citing) data that is used in the course of research. Delegates endorsed the proposed SCAR Data Policy.

The importance of badging data as belonging to the Polar Information Commons was emphasized. Scientists should not be expected to submit their data more than once. If data are submitted to a data centre, they can be badged when deposited so the data will also be discoverable via Google, for example.

K Finney made the point that SCAR needs member commitment to DIMS resourcing and a sustainable participation model. If members are not inclined to resource the Plan then should we reconsider the role and function of SCADM?

The point was also made that it would be good to have some examples on how to input data and, if any significant publication etc. are made using these data, then there should be at least an acknowledgement.

Action: The SCAR Secretariat to issue a letter asking national committees to contact their national funding agencies and emphasize the importance of funding data management as part of science budgets, before the end of the year.

Action: SCAR President/Secretariat to issue a letter to national committees by the end of the year reminding them of the importance of nominating representatives to both SCADM and SCAGI.

The Executive Director reported on progress with the Standing Committee on Antarctic Geographic Information (SCAGI), of which the CO is H Brotsma (Australia). H Brotsma will step-down as CO by the end of December 2010 and so SCAGI is currently looking for a replacement.

There is a close relationship between SCAGI and SCADM, which held a joint meeting in Amsterdam in September 2009 [IP4a] and in Buenos Aires. SCAGI will work to improve and update its products such as the Antarctic Digital Database (ADD, www.add.scar.org) and the Composite Gazetteer of Antarctica (CGA, <http://data.aad.gov.au/aadc/gaz/scar/>) in order to conform to the DIMS. SCAGI is working on a solution so that the SCAR CGA, or a subset of the SCAR CGA, will be useful to other applications such as Google Earth.

A major problem is that the SCAGI and King George Island Web map server that are currently hosted by Freiberg University are no longer accessible, despite many attempts to contact those involved.

Action: Secretariat to liaise with German SCAR Delegates to resolve the issues of the SCAGI website and the KGI-GIS web map server, before EXCOM 2011.

The importance of having a review of the SCAR Products was reiterated. The Delegates approved the SCADM and SCAGI reports.

5.5 Interdisciplinary Linkages Between SSGs (IPs: 5 and 6)

The third COs' meeting took place on August 4, 2009, in Punta Arenas [IP 5].

A Cross-linkages Workshop was held on February 5-6, 2009, in Modena, Italy, hosted by A Capra [IP 6]. A Capra drew the attention of Delegates to the main outcomes of the Modena Cross-Linkages Workshop [IP 6], and noted progress against recommended actions.

The next workshop will likely be in 2011, but a place or exact date has not yet been fixed.

5.6 King George Island Science (WP 11)

S Marensi introduced this item. During 2008, the KGI Action Group was expanded to include the COs of the SCAR SSGs, or their representatives, and the AG prepared a paper for presentation on 3 August to the 2009 COMNAP meeting on "King George Island and SCAR Science" [WP 11], to stimulate the dialogue between SCAR and COMNAP on ways in which National Programmes on King George Island (KGI) might make a greater contribution to achieving the goals of SCAR's scientific programmes. The paper recognised that many opportunities for collaboration existed that could best be achieved through enhanced, mutually beneficial partnerships and bi- and multi-lateral agreements to advance common goals. SCAR is ready to assist National Programmes in moving forward for the benefit of the wider scientific community and the stewardship of Antarctica.

The SCAR President noted that KGI was an important area for SCAR because it offered the potential for SCAR to bring groups together to discuss how to contribute in new ways to the furtherance of scientific understanding. The KGI AG was expanded to facilitate this, and several discussions had been held with operators and with COMNAP regarding how best to advance partnerships in the region. Having a workshop on KGI science would help to identify profitable areas for pan-KGI science that would contribute to SCAR's scientific goals. It would be helpful over time to maintain the KGI AG, to examine its ToRs and membership, and to consider COMNAP's involvement. Delegates agreed that a workshop would help to link SCAR and KGI research more effectively. Delegates noted that there was also potential to widen the examination of potential for scientific collaboration to incorporate the national bases and scientific activities on the several surrounding islands.

In addition the SCAR President was able, thanks to the courtesy of the Uruguay Antarctic Programme, to visit several bases on KGI during February 22 through March 1, 2009, and to hold discussions with staff there about ways in which KGI activities might contribute to SCAR programmes.

Action: The Secretariat will work with the King George Island AG leadership to modify the ToRs of the AG prior to EXCOM 2011.

Action: The Secretariat will issue a general call to Delegates and National Committees with activities on KGI to nominate representatives to the AG, by the end of the year.

Action: The Secretariat will liaise with the KGI AG and COMNAP to schedule a workshop in early 2012 to explore the further development of KGI science in the context of SCAR's scientific programmes.

6. Reports on and Reviews of SCAR Scientific Research Programmes

M Kennicutt introduced this item. Delegates noted progress by the four SRPs (below), the dissolution of SALE and its great success with the development of two new major lake drilling programmes, the continuation of the programme at Lake Vostok, and the transition of ICESTAR to an Expert Group. Delegates endorsed the SRP plans.

6.1 Report on ACE (WP 13; IP 1)

C Escutia, Co-Chair of the ACE Steering Committee, presented the progress report and plans for ACE, and the revised membership of the ACE Steering Committee [WP 13], noting among other items the success of the first international ACE workshop in Granada in September 2009, which also included several subsidiary workshops on different aspects of ACE's work.

AntSCAPE (Subcommittee on Antarctic Paleotopographic Maps) is a mapping programme that has developed sub-ice paleotopographic maps of the Antarctic surface; these are needed to develop maps of where ice might have formed in the past. Key achievements include drilling by the ANDRILL programme working in the Ross Sea area and drilling through the ice shelf and ocean to recover the sedimentary record of ice sheet advances and retreats. Data go back through the Miocene (15 million years ago), indicating that in times past the Ross Sea was ice-free when the West Antarctic Ice Sheet melted. Deep ocean drilling has also contributed to ACE goals through IODP cruises off the Wilkes Land margin, of which C Escutia was co-chief scientist. ACE was also influential in the future direction of the integrated ocean drilling programme. ACE has also been helping to convince the IPCC that the paleoclimate dimension of IPCC reports should be expanded. Several key papers and books have been published. A further book will result from the ACE symposium last September. ACE also contributed to the paleoclimate chapter of the ACCE review. The ACE symposium had 180 participants, one third of them students. ACE was approved in Moscow 2008 for continuation to 2012, and is developing plans for a follow-up SRP for discussion at ISAES in Edinburgh.

Delegates noted that these results are having a wide impact. It would be useful to take this information back to the ATCM/CEP via an Information Paper. Delegates were very pleased with progress and plans.

Action: ACE to develop with SCATS an Information Paper for the 2011 ATCM/CEP on ACE results and implications.

6.2 Report on AGCS (WP 14; IPs: 1 and 7)

M Candidi, on behalf of the AGCS Steering Committee, presented the AGCS progress report and plans, and the revised membership of the AGCS Steering Committee [WP 14], referring also to publication of the AGCS-led Antarctic Climate Change and the Environment (ACCE) Review [IP 7], which involved collaboration with ACE and EBA. 500 copies of the ACCE report were printed and distributed (mostly to the 100 authors, to book reviewers, to national committees and delegates, to ATCM delegations, to UNFCCC delegations, to COMNAP and to CCAMLR). The book is intended to be a "free" book, and can be downloaded from the SCAR website. AGCS also leads development of the climate report to the ATCM (see agenda item 8.1). AGCS addresses the modern climate system and its changes in terms of the ocean, ice and atmosphere systems and their interactions. The main

highlights were (i) the ACCE review, (ii) determining that the ozone hole was the cause of sea ice increase in recent decades (the opposite of the Arctic, where there is no shielding wall of wind), (iii) linking increasing drought in West Australia to increased snowfall in Antarctica as the SAM circulation shifted south; (iv) bottom waters and intermediate waters have freshened due to more runoff from melting ice. AGCS produces a newsletter (Notus) and maintains a website. AGCS was significantly involved in IPY activities. It supports the READER databases (Met-, Ocean-, and Ice-). MetREADER has recomputed all its climate data. IceREADER compiles short ice core data. AGCS will continue its stated programme to 2012. It will contribute to SOOS. Work has begun on a successor programme (PACE).

Delegates noted progress with appreciation, especially the ACCE report.

Delegates noted that glaciology processes related well to SSG-PS, and glaciological records through time related to SSG-GS. It was considered that glaciology should be left within SSG-PS.

6.3 Report on EBA (WP 15; IP 1)

The ex-officio member of the EBA Steering Committee, K Conlan, presented the EBA progress report and plans on behalf of the Co-Chairs, and introduced the revised membership of the EBA Steering Committee [WP 15]. EBA met during the Oslo IPY conference, had a major workshop in Naples in 2009 and supported large numbers of young scientists to attend the OSC in Buenos Aires. EBA contributed to a recent special issue of *Antarctic Science* on the Latitudinal Gradient Project, and to the ACCE Review, as well as to the Biology Conference in Sapporo in 2009. Later results will be presented in Portland (2012) and the next Biology Symposium (2013) to be held in Spain. The Secretary, S Gordon had moved to other duties and would be replaced by Jose Xavier (Portugal/UK) and Meghana Rajanahally (India/NZ). 200 papers were published in 2009. There have been 13 workshops and the website has had more than 100,000 hits in 2008-9. The EBA Newsletter has also become quite popular.

Scientific highlights include the major finding that organisms have lived on the continent for several millions of years and must have done so in non-ice-covered refugia even during glacial maxima. The Gressitt Line shows a break in communities between the Peninsula and the rest of Antarctica. The centre of evolution for octopuses has been in the Southern Ocean, from which they have dispersed north. New vent habitats have been discovered on the seabed. Scientific stations can be a locus for introduction of alien species. These places also have an impact on the environment by introducing buildings, creating dust etc. Around 200 alien species have become established (including the sub-Antarctic islands but noting that for most groups this will be an underestimate). Many more may arrive via climate change and human activity. This could be a problem in the marine realm if crabs invade, which they could do with warmer conditions (crabs disappeared from the region on cooling 15 million years ago). Aliens in Antarctica, an IPY programme, shows most introductions happened through science activities rather than through tourism. There is a clear response to climate change from indigenous species; e.g. springtails have increased. Experiments give an indication that small temperature changes will create large responses of vegetation and insects (in field experiments). Plants have increased 1-2 orders of magnitude on Alexander Island over the past 40 years. Chorophyll offshore has increased in the southern Peninsula region but declined in the northern

part, in relation to changes in sea ice (less sea ice and more wind causes down-welling and less productivity). Ocean acidification remains a big issue for aragonitic pteropods (planktonic marine snails) at the base of the food chain.

Delegates noted and approved progress and plans, expressing satisfaction with progress.

6.4 Report on ICESTAR (WP 16; IP 1)

M Candidi, SSG-PS chair, presented the bipolar ICESTAR progress report and plans [WP 16]. The object was to see to what extent what is seen above the poles in each hemisphere is conjugate. The study showed that anticipated conjugate points were not necessarily so, resulting in asymmetries that then needed to be explained. Questions include: Why are the same phenomena not seen at opposite ends of the same magnetic field line? What conditions modify conjugacy? What are the connections between the upper and lower atmosphere? What arrays can be deployed to observe conjugate behaviour at both poles? A number of studies were carried out during the IPY to answer these and other questions. Virtual Observatories have been developed of auroral image data as the basis for future studies. ICESTAR will be replaced by an Expert Group to provide a better scientific understanding of the polar atmosphere, and further develop a data portal to facilitate this research.

Delegates expressed their satisfaction with the progress of ICESTAR, which had performed successfully as an SRP, and wished the future ICESTAR EG the same success.

6.5 Report on SALE (WP 17; IP 1)

M Kennicutt, the SALE Secretary, presented the SALE report [WP 17]. SALE recently organized a Chapman Conference, in Baltimore (March 15-17, 2010). A Monograph on Subglacial Aquatic Environment Science will be published by the American Geophysical Union at the end of 2010. Having met its Terms of Reference, SALE membership voted unanimously to disband the SRP as of April 1, 2010. SALE is an example of how SCAR can bring a community together to consider new frontiers in a pan-Antarctic way. SALE was established in the year 2000 as a Group of Specialists and then put forward a proposal for an SRP in 2004. It was also an IPY programme (SALE-UNITED). As a result of SALE activities, major drilling programmes have been established for Lake Ellsworth and for the Whillans Ice Stream, which will be paralleled by continuation of the plan to drill into Lake Vostok. Achieving these activities means SALE has achieved its objectives.

Delegates congratulated SALE on its achievements, and looked forward to the success of the proposed drilling, and the development of the related ATHENA programme.

EXCOM had asked an *ad hoc* Action Group to develop a code of conduct for environmental stewardship of subglacial hydrological systems [IP 3]. This was developed in consultation with COMNAP and SCAR Members and presented to the SSGs.

Delegates approved the code of conduct for the exploration and research of subglacial aquatic environments.

Action: SC-ATS to submit the Code of Conduct for Subglacial Research to the ATCM/CEP as an Information Paper in 2011.

6.6 Report on AAA (WP 18)

J Storey, Chairman of the AAA Steering Committee, presented the progress report and plans for AAA, and membership of the AAA Steering Committee [WP 18]. AAA officially became a SCAR SRP in 2010. The 4 themes are (i) site testing, validation and archiving; (ii) Arctic testing; (iii) science goals; (iv) major new facilities.

For site testing – key sites are South Pole, Dome A, Dome C, Dome F, Ridge B and Ridge A (not yet explored), and McMurdo (balloon launch programme). Site testing involves testing the qualities of the atmosphere and the thickness of the turbulent boundary layer as the basis or deciding on what kinds of equipment are needed to take best advantage of the sites. PLATO robotic observatories will be deployed to places like Ridge A and B. A database of site testing data will be built. The data, e.g. on the stable boundary layer, will also be useful to meteorologists.

The Arctic work taking place on Ellesmere Island is a way to enable direct comparison with measurements made in the Antarctic.

The group addresses various kinds of astrophysics and astronomic studies, also including solar data, cosmic rays, looking for new planets around other stars, meteorites etc. The science implementation plan is being constructed.

The major new facilities group will try to get people to work together to create common facilities, e.g. the Polar Large Telescope (PLT). Some of these facilities will be ground-based; others flown from balloons. Cooperation is essential to avoid duplication.

The project began during the solar minimum in 2009 and will be able to examine change as solar activity increases over time. The urgency behind AAA is to ensure the best possible coordination of the various ongoing or planned national activities so as to ensure that money invested at the national level gets spent in the most optimal way.

Delegates noted the report and look forward to future progress.

7. SCAR, IASC and the IPY

7.1 Progress with the IPY (IP 8)

M Sparrow, the SCAR Executive Director, introduced this item. The SCAR President has replaced the former Executive Director (C Summerhayes) as the ex-officio SCAR member of the Joint ICSU/WMO Committee for the IPY (the IPY-JC). C Summerhayes was co-opted onto the IPY-JC in a personal capacity.

The IPY field observations period formally ended on 1 March 2009. The IPY Joint Committee had the last meeting in June 2010 and the IPY was officially closed in a ceremony at the Oslo Science Conference. The International Programme Office (IPY-IPO) is in the process of closing. A report of the IPY is under preparation by the IPY Joint Committee and will be published in late 2010. A further IPY conference will be held in 2012 in Montreal, Canada. Both the current Executive Director and C Summerhayes are on the 2012 organising committee.

SCAR and IASC, as the major science coordinating bodies for the polar regions, will be key in assisting in preserving various aspects of the IPY legacy – especially (i)

observing systems (ii) data and information management and exchange; and (iii) the development of the next generation of polar scientists.

7.2 The Relationship between SCAR and IASC (WP 21, 22)

SCAR and IASC have continued to develop their strategic links in regard to issues of bipolar interest.

The SCAR/IASC Bipolar Action Group was originally formed to help to improve the way in which SCAR and IASC work together and to advise IASC and SCAR on the development of mechanisms to nurture the IPY legacy [WP 21].

Members of the IASC and SCAR EXCOMs met in the margins of the IPY Oslo Science Conference to discuss how best to address various IPY legacy issues. The main recommendation from this meeting was that SCAR and IASC should certainly play a role in preserving the IPY legacy, but this must be done within the context of the limited resources (both human and financial) of both organizations. It was recognized by both parties that this subject might best be managed by the SCAR and IASC Executive Committees. A 2-year extension of the BiPAG was recommended, with the group focusing on identifying science issues of mutual interest to the two organizations.

Delegates noted and approved the recommendations of the joint SCAR/IASC EXCOM meeting and approved the BiPAG group for a further 2 years with its modified ToRs.

***Action:* SCAR and IASC Secretariats and EXCOMs to review the Terms of Reference of BiPAG and accordingly recommend co-Chairs and membership.**

The Executive Director reported briefly on the other growing links with IASC listed in WP 22. IASC has a standing invitation to send an observer to the SCAR Delegates Meeting. As appropriate and feasible, SCAR also sends a representative to the Arctic Science Summit Week (ASSW) when possible. The IASC Executive Secretary, V Rachold, attended the XXXI SCAR Delegates Meeting as an Observer.

8. SCAR and the ATCM

8.1 Report of Standing Committee on ATS (WPs 23 and 24)

S Chown (SAfr), Chief Officer of SC-ATS, presented the Reports of the SCAR Observers from XXXII ATCM (Baltimore, April 2009) [WP 23], and XXXIII ATCM (Montevideo, May 2010) [WP 24] and their associated CEP meetings. He also reported on the results of the meeting of the ATS Group of Experts on Climate, which took place in the Lofoten Islands in Norway on April 7-9, 2010, and on plans for future SCAR papers for XXXIV ATCM and the associated CEP meeting in 2011.

S Chown re-iterated that there is a long list of requests made by the Treaty Parties to SCAR. Most requests are dealt with within one year. SCAR, though, does have the right to decline requests if it deems them to be out of SCAR's remit or requires resources beyond SCAR's capabilities.

EXCOM agreed that a new Expert Group on Protected Area Management Plans (EG-PAMP) should be formed to improve provision of scientific advice on these plans. S Chown announced a meeting on Antarctic Conservation in the 21st century organised by SC-ATS. He also noted the importance of SCAR becoming involved in the new

Intergovernmental science policy platform for biodiversity and ecosystem services. (<http://ipbes.net/>).

Action: Secretariat and COs of SC-ATS and SSG-LS to work on formation of an EG-PAMP, including Terms of Reference and a voluntary membership, that will report to the CO of SCATS. The Secretariat to issue and widely circulate a letter pointing out the importance of this group and recruiting members for EG-PAMP.

The Delegates thanked S Chown for his work, noting that the demand on SCAR has been increasing. The importance of engaging the SSGs in the work of SC-ATS was noted.

Action: Recognising there is a need to engage a wide range of experience in the work of the Standing Committee on the Antarctic Treaty System (SC-ATS), the Chief Officers of the Standing Scientific Groups are asked to nominate experts from within their groups who have an active interest in the science-policy interface to work with SC-ATS. Nominations should be made prior to EXCOM 2011.

8.2 Report on SCAR interactions with the CEP

R Ravindra, the observer from the CEP, gave a presentation on the work of the CEP of relevance to SCAR. The presentation was well received.

8.3 Report on interactions with CCAMLR (IP 9)

S Chown introduced the item on CCAMLR, on behalf of the SCAR Observers to CCAMLR. There have been two CCAMLR meetings since XXX SCAR, in 2008 and 2009, both in Hobart. The reports indicate how we might further strengthen the links between SCAR and CCAMLR. It is intended to develop a joint SCAR-CCAMLR Action Group in 2011 to address the question of making such improvements (in the same way as was done successfully with CEP and COMNAP). Informal meetings between SCAR and CCAMLR have been undertaken in the margins of the ATCMs to develop a way forward. Enrique Marschoff attended the SCAR Delegates' meeting as the official CCAMLR observer.

8.4 Report on Interactions with COMNAP (WP 25)

The Executive Director introduced this item, noting that COMNAP was invited to send a representative to the Delegates' meeting.

Since XXX SCAR there have been two meetings of the EXCOMs of SCAR and COMNAP, one in Punta Arenas (August 2009) and one in Buenos Aires (August 2010). The two EXCOMs agreed to form an Action Group (as done with CEP) to explore ways in which the two organisations could work together more effectively and in a more strategic manner [see WP 25]. The Action Group held its first meeting in Washington DC on March 13, and a second meeting in the margins of the ATCM/CEP meeting in Montevideo in May 2010. The meetings were productive. It should be noted that many of the actions and issues are ongoing and will rely on continued discussion and liaison between SCAR and COMNAP and in particularly the Secretariats of both organizations.

With regard to areas of mutual cooperation, SCAR will explore working together on Education, Outreach and Communications, in particular with regard to launching a

joint fellowship scheme in 2011; on observing systems such as SOOS; on non-native species; data and information management; collaboration at the ATCM, including submission of joint papers when appropriate; joint workshops; King George Island coordination and possible joint sponsorship of the SCAR and COMNAP human biology and medicine groups.

9. SCAR Business

9.1 Book on SCAR's 50th Birthday Celebration (IP 10)

The Executive Director introduced this item. D Walton and P Clarkson are co-editing a SCAR anniversary celebration book "*Science in the Snow: 50 years of international collaboration in Antarctica*". The book should be published in 2010. Production costs are now estimated to be \$14,000.

The Delegates felt that, since this was a book about SCAR and money was being loaned to the authors to publish the book, it would be appropriate for a committee to review the book for factual accuracy. It was noted that the style, etc. of the book was up to the authors and no form of censorship should be considered. The Delegates decided that the review committee will be composed of A Rocha-Campos (Brazil), J López-Martínez (Spain), I Allison (Australia), Y Kim (Korea) and C Lüdecke (Germany).

Action: SCAR Secretariat to co-ordinate the work of the review committee that will comment on any perceived factual inaccuracies in the SCAR history book. The Committee will provide its responses to the Secretariat within one month of receiving the content from the authors and no later than the end of November 2010.

9.2 SCAR Awards (IP 11) Introduced by the VP for CBET

On advice from the Awards Committee, in 2010 the SCAR Medal for Excellence in Antarctic Research was awarded to J Turner and the SCAR Medal for International Scientific Coordination was jointly awarded to A Cooper and R Rutherford. Certificates of Appreciation were awarded to outgoing SCAR Vice-Presidents, A Meloni and S Marensi; chairs of the XXXI SCAR Meeting Local Organising Committee, M Memolli and S Marensi; chairs of the Scientific Committee of the Open Science Conference, J Priscu and C Escutia and ex-Executive Director of SCAR, C Summerhayes.

SCAR administers the prestigious Martha T Muse Award for Antarctic Science for the Tinker Foundation. The award is a \$100,000 unrestricted cash prize each year, and is funded for at least a 5-year period as part of the IPY legacy. The first awardee (2009) was S Chown (Chief Officer of SC-ATS) and the second award for 2010 has been made to H Fricker.

9.3 SCAR Fellowships (IP 12) Introduced by the VP for CBET

On advice from a review panel, the Executive Committee meeting in Punta Arenas approved the award of four SCAR Fellowships for 2009-2010:

- Nuncio Murukesh (India) going to USA
- Jennifer Lee (S Afr) going to UK

Stefano Picotti (Ita) going to USA

Odile Volontario (Urug) going to UK

The Fellows for 2010-2011 were approved by the Delegates and are:

Sze Ling Ho (Malaysia/Germany) going to Spain

Sunil Kumar Shukla (India) going to France

Fransisca Vermulen (Netherlands/New Zealand) going to Norway

Ernesto Balari (Spain/Australia) going to Chile

To enable SCAR to expand the Fellowship Programme for the benefit of young scientists, National Committees were asked to provide additional financial support for the programme. Italy and India each provided US\$5000 in 2009 and India has donated \$10,000 in 2010.

Action: The SCAR President will issue a letter to SCAR Delegates and National Committees encouraging them to provide additional financial support for the SCAR Fellowship Programme.

9.4 New SCAR Legal Status (WP 26)

This item was introduced on behalf of the SCAR Secretariat by C Summerhayes. ICSU requires that all of its subsidiary bodies acquire independent legal status. In 2008, SCAR was therefore registered as a Company Limited by Guarantee and a charity in the UK. The Constitution and some of the Rules of Procedure were modified as appropriate and, following consultation with Delegates, into a Memorandum of Association and Articles of Association for the Company and Charity (<http://www.scar.org/about/constitution/>). The SCAR Executive Committee (excluding the Executive Director) are the Directors of the charity, with the SCAR Executive Director being the Secretary. The Rules of Procedure (on the same web page) were very slightly revised accordingly. All of the documents were made available to Delegates at XXX SCAR. The President addressed in correspondence questions about the process raised by certain delegations in Moscow [WP 26].

Delegates noted and approved developments, noting that the central point is that SCAR remains an international body that is an Interdisciplinary Body of ICSU.

9.5 Rules of Procedure of Subsidiary Bodies (IP 13)

This item was introduced by the VP for Administration and Outreach, A Meloni. The SCAR Rules of Procedure will incorporate as an Annex the Rules of Procedure for Working Groups (RoPWG), which were originally presented as the Rules of Procedure for Subsidiary Bodies (RoPSS) in Working Paper 33 at XXVIII SCAR. Delegates at that meeting agreed to allow the Executive Committee to approve the Rules of Procedure for Subsidiary Bodies (RoPSS). In accordance with the SCAR Articles of Association, these Rules are now referred to as the Rules of Procedure for Working Groups. In every case the overall SCAR Rules of Procedure (see above) take precedence where there is any apparent conflict or ambiguity between them and the Rules of Procedure for Working Groups. The revised and approved RoPWG were tabled as IP 13.

Delegates noted and approved the nature and status of the RoPs for SCAR's Subsidiary Bodies.

9.6 Partnerships [including e.g. ICSU Unions, SCOR, SCOSTEP, CODATA, IGBP, GEOSS, WCRP, and IPCC] (IP 14)

A Meloni provided a brief report on how SCAR's links with ICSU and its subsidiary and related scientific bodies continue to increase, as reflected in paper IP 14. SCAR has developed close links with IASC, and has a long-standing close relationship with COMNAP. SCAR is now a co-sponsor of APECS (with IASC).

Delegates noted and approved progress in developing and establishing partnerships with ICSU and other ICSU bodies. Concern was expressed at the lack of any direct reporting by SCAR to ICSU, especially in the context of the IPY follow up and legacy.

Delegates strongly encouraged attempts to raise the profile of polar affairs within ICSU. This is an excellent time to do this in the immediate aftermath of the IPY – to report to the 2011 ICSU General Assembly in Rome on progress in implementing the IPY legacy and to encourage more cross-ICSU activity on polar science. It was suggested that a letter to ICSU, either jointly or separately from different polar bodies (e.g. SCAR, IASC, and IACS) should be written to ensure that IPY legacy matters are kept on the agenda of the ICSU General Assembly.

Note that there are plans for a two-day symposium for 80-100 persons on “*Polar Research Urgencies and ICSU's Grand Challenges in Global Sustainability*” to be held in Siena, Tuscany, prior to the ICSU General assembly in Rome beginning 26 September 2011.

Delegates also noted that SCAR is trying to work more closely with COMNAP. To facilitate interactions, SCAR and COMNAP have formed a joint action group to examine ways in which collaboration can be increased to mutual advantage. There is a plan to use a similar Action Group approach to further improve relations between SCAR and CCAMLR.

Action: SCAR and IASC Secretariats to work on a draft letter to be sent to the Executive Director of ICSU (before October 1) suggesting that it would be appropriate for a report by SCAR, IASC and other relevant ICSU bodies on issues related to the IPY Legacy at the next ICSU General Assembly in Rome in 2011.

10. SCAR Reporting

10.1 Report of History of Antarctic Research Group (WP 28)

A Meloni reported on progress with the SCAR Action Group on the History of Institutionalisation of Antarctic Research within SCAR. This group held its 4th meeting in St Petersburg, in 2008, and its 5th meeting in Washington DC in December 2009. Meetings were also held in June 2010 as part of the IPY Oslo Science Conference, and the 6th meeting was held in association with the OSC in Buenos Aires. The group has been highly productive, and papers from all of its previous meetings are now either published or in press. The group requested a change in status to Expert Group to enable it to consider a longer perspective back in time beyond the IGY, and to consider history from a bipolar perspective. EXCOM recommended asking an external review group to evaluate progress and plans, and advise SCAR as appropriate before making the necessary decision. In the meantime, funds should be

made available for one further year. The group offers education and outreach in terms of the development of scientific research. A substantial number of people from several SCAR countries have been involved in the activities of the group, which has had good reports on progress thus far.

10.2 Report of new Social Science Action Group (IP 15)

A Meloni explained the background to formation of a new social sciences group, based on IP 15. The proposal to form such a group had been stimulated by the IPY, and considered by EXCOM in 2009, which approved start-up funds. The group is expected to report on the main influences on decision-making regarding polar issues and values. There followed an extended discussion about the role of the humanities in SCAR. The President noted that having such a group is an experiment for SCAR, and that it is anticipated that the group will be scrutinised closely by EXCOM to see if what it is doing is of value to the organisation. Delegates suggested this might be considered as a bipolar group. Social science could also be useful to demonstrate the context of science for the public and to the non-polar countries.

Action: EXCOM to form a small review group chaired by A Meloni and involving the chairs of the History Action Group (C Lüdecke) and Social Sciences Action Group (D Liggett and/or Gary Steel) and populated with external people with expertise in history/social sciences and representatives from SCAR, to:

- (a) Consider whether or not to elevate the History Action Group to an Expert Group, or end the activity. If the activity is continued, terms of reference will be reviewed and membership assessed. Collaboration with IASC will also be explored.
- (b) Review the outcomes of the Social Sciences Group activities, to evaluate progress and decide on continuance to 2012.
- (c) Consider the overall question of incorporation of humanities and social sciences within the SCAR portfolio of activities, taking into account limited resources and the need to first support the core activities of SCAR.

The AG will report to the 2011 EXCOM meeting.

Action: The Strategic Plan will include a statement regarding the intent of the organisation to review the extent to which SCAR could or should incorporate the humanities and social sciences as a new dimension to its portfolio.

10.3 Reports of (2) Executive Committee Meetings (IPs: 16)

The Report of the SCAR EXCOM meeting in Punta Arenas (August 2009) was provided as an Information Paper [IP 16].

10.4 Report of XXX SCAR Delegates Meeting (IP 18)

The Report of the XXX SCAR Meeting was provided as an Information Paper [IP 18].

10.5 Report of XXX SCAR Science Week, St Petersburg (WP 29)

The report outlining the results of holding XXX SCAR Science Week and the Open Science Conference in St Petersburg was provided as an Information Paper for reference purposes [WP 29]. Feedback from that meeting had been used to advise the organisers of the Buenos Aires meeting.

10.6 Draft Report on XXXI SCAR Meeting, Buenos Aires (IP 19)

S Marensi presented a brief report on XXXI SCAR [IP 19]. The conference had been planned for four days to accommodate an extensive programme, and the plenary had been reduced to less than one full morning by holding all the welcome speeches during the previous evening's ice-breaker party, and by holding the medal ceremony during the SCAR banquet. Full attendance at SSG meetings had been secured by not allowing meetings of SSG subgroups during the periods allocated to SSG meetings.

Delegates congratulated Argentina on a successful Open Science Conference, Business and Delegates' meetings.

***Action:* Argentina to provide the Secretariat with a comprehensive report on the 2010 meetings and recommendations regarding future meetings for the use of the Secretariat and organising committees of the 2012 meetings, by the end of the year.**

10.7 Proposal for Managing OSCs (WP 30)

The Executive Director introduced this item. SCAR has now held four OSCs (Bremen, Hobart, St Petersburg and Buenos Aires). The Executive Director presented an update of the proposal to XXX SCAR for part-management of future OSCs as an in-house activity, with the goal of increasing the efficiency of abstract submissions, minimising the cost of attendance, and at the same time providing more continuity and standardisation [WP 30].

The French Delegate, R Schlich, noted that EGU had an efficient and cost effective system and suggested it would also be worthwhile investigating this system.

Delegates approved the proposal for managing future OSCs

***Action:* The Secretariat will continue to develop a plan for increasing Secretariat participation and co-management of the biennial meetings with the host nation. A first step is to have in place a system to handle all aspects of developing and agreeing the scientific programmes in-house to include, but not be limited to, an automated, on-line abstract submission and review system for the 2012 meetings.**

10.8 Communications and Publications (IP 20)

A Meloni introduced this item, referring to IP 20. The SCAR Communications Plan (<http://www.scar.org/communications/>) approved at XXIX SCAR was designed to enable the SCAR Secretariat and National Committees to use effective communications to spread the SCAR message to the wider community. National Committees have a vital role to play in passing on the SCAR message to the wider community at the national level.

***Action:* The SCAR President will issue a letter encouraging Delegates and National Committees to apply the SCAR Communications Plan at the national**

level and ask that they inform the Secretariat about their communications plans regarding SCAR activities by the end of 2010.

The SCAR website has served well, but is now in need of improvement. A plan has been developed to revamp the website, one aspect being to add a focus on the issues that occupy the minds of visitors to the site, rather than (as now) arranging the site largely for the internal purposes of SCAR. SCAR aims to improve web search engine ratings, and to make its website a collaborative work-space. Because of the need to balance the 2010/11 budgets, the upgrade of the SCAR website has had to be put on hold. However as an interim measure (and noting this would have to be done prior to having the site hosted externally anyway), the Secretariat will work on improving the accessibility and look of the website within the constraints of the University-hosted site.

Since 2008, many of the items on the Members page have been moved to SCAR's open pages, to increase transparency. The process of opening up more sections of the SCAR website will continue while protecting any proprietary or internal SCAR documents.

The ACCE report was published on the website but is available for sale in hard copy from the Secretariat. SCAR is supporting publication of the 50th Anniversary volume and the publication of the IPY Joint Committee comprehensive report on progress.

SCAR is communicating with young researchers and the public via Facebook and other modern pathways.

Communications from SCAR to National Committees and Delegates have significantly improved with the development of the monthly topical "*Notes from the President*" and the production of newsletters by SCAR, AGCS, EBA and APECS, as well as the SCAR brochure. The Guide to the Delegates meeting, with one-page summaries of all papers has proved helpful. Wide use of Powerpoint presentations during the meeting was also welcomed as an improvement. Delegates approved revamping the website and other communication plans.

Action: During the redesign of the SCAR website, the Secretariat is to make links to the web pages of SCAR Members prominent and easily accessible via the website.

10.9 Report on Capacity Building and Education (WP 31)

R Ravindra introduced this item, referring to paper WP 31. Delegates at XXIX SCAR endorsed the Capacity Building Education and Training (CBET) Strategy (<http://www.scar.org/about/capacitybuilding/>). The status of the CBET programme and plans are outlined in WP 31.

SCAR now has a fully formed CBET Committee. A key activity of the CBET programme is the Fellowship programme (agenda item 9.3, above). The International Antarctic Institute based in Hobart continues to make progress; SCAR is an Associate Member. SCAR is now a co-sponsor with IASC of the Association of Polar Early Career Scientists (APECS), which developed under the IPY. The APECS Executive Director, J Baeseman, attended the Delegates' meeting as an observer.

R Ravindra noted that the SSGs and SRPs contributed resources to fund travel grants for students and early career scientists to attend the OSC at XXXI SCAR. Around 300 applications for these grants were received, of which 99 were funded. It should

be noted that although this activity was popular, it came at the cost of significant additional workload to the Secretariat as well as to the reviewers (in particular Life Sciences). SCAR, in partnership with Norway, also obtained a grant from the Tinker Foundation of \$30,000 for travel funds to allow Latin American scientists to travel to the IPY conference in Oslo.

An ICSU grant – Education and Outreach lessons from IPY – of 30,000 Euros was also obtained in partnership with APECS, IASC and the IPY office.

10.11 Status of National Reporting to SCAR (IP 22)

IP 22 shows the current status of national reporting to SCAR. In most cases the new SCAR Reporting Template is being used. National Committees are more timely now in submitting to SCAR their annual reports on progress, which appear on the SCAR website.

The Secretariat and SCAR President continue working to visit all National Committees. In 2009 the President visited the National Committee of Uruguay, as well as visiting various national operators' bases on KGI including Korea, China, Russia and Chile. He also visited national groups in Argentina, Bulgaria, Chile, Belgium, Italy, Korea, China, Norway, the UK and Japan. The Executive Officer (now Executive Director) visited the National Committees of Peru and Ecuador, where he delivered a talk on SCAR in Spanish, and discussed relevant matters with the Brazilian SCAR Delegates in Brazil.

10.12 Activities of the Executive Committee (oral)

The President made a brief oral report outlining the activities of the members of EXCOM since XXX SCAR. This constitutes a supplement to the reports of the meetings of the Executive Committee and of Joint Meetings of the SCAR and COMNAP Executive Committees. Vice Presidents A Huiskes, T Meloni and R Ravindra supplemented M Kennicutt's report.

10.13 Activities of the SCAR Secretariat (IP 23)

A Meloni introduced this item [IP 23]. On April 9, 2010, the previous Executive Director (C Summerhayes) retired. Following an extensive search, M Sparrow (the Executive Officer at the time) was appointed from an international field of 17 applicants to take over as ED on 1 April. A further recruiting exercise was then needed to replace the EO. Forty-five applications from 15 countries were received, and a shortlist of three candidates was interviewed on February 1. The successful candidate was R Badhe; she is from India, and holds dual Indian (OCI) and British citizenship. She has a Masters degree in Environmental Policy and a PhD in Antarctic Marine Biology, and has recently been working with the IUCN on climate change and species in polar regions.

11. Finance

In accordance with the rules of procedure, observers left the meeting during discussions on item 11.

M Kennicutt explained the requirement to balance yearly budgets, noting the need to increase membership fees to cover rising costs, in particular because of cost of living increases, or continue to cut budgets for core SCAR activities. He indicated that the

“re-invention” of SCAR had greatly increased demand on all of SCAR’s resources, both financial and human, and that in order to maintain the momentum of recent years, higher membership fees were inevitable. The alternative was to continue to reduce funding for SCAR activities that in some cases may lead to ending certain parts of SCAR’s mission.

The challenge is to match financial resources with demand while maintaining a healthy and vibrant organization. SCAR’s core funding comes from membership fees supplemented by grants and contracts from external sources.

It was noted that many other organisations, such as the Scientific Committee on Oceanic Research and SCAR’s parent organisation ICSU, assess a yearly increase in fees (in SCOR’s case ~3% per annum) to offset the effects of rises in the cost of living. Inflation and the increased costs of doing business require an increase in membership fees or a reduction in activities. The last increase in SCAR fees was agreed in 2004 (for 2006). A 3% increase in cost per year is equivalent to ~ 20% cumulative loss in buying power since 2006.

11.1 Report of the XXXI SCAR Committee on Finance (WP 32)

The report of the finance committee is available from:

<http://www.scar.org/members/scarmeetingreports/xxxibuenosaires10/meetingpapers.html>

11.2 Financial Statements for 2008 and 2009 (WPs 33 and 34)

The SCAR Financial Statements of Income and Expenditure for 2008 [WP 33] and 2009 [WP 34] were introduced. Notes on the finance sheets explain the various adjustments approved by the Delegates at XXX SCAR or by the Executive Committee at its meeting in Punta Arenas.

It was noted that it was important to wisely invest (at low risk) the SCAR Reserve so that a higher rate of return can be obtained. The question was raised why the administration to science ratio was higher in 2009 than 2008. This was largely a result of under-spending on science and not increased administrative costs as this calculation is based on actual expenditures not allocated funds.

Delegates endorsed the 2008 and 2009 statements.

11.3 Revised Budget for 2010 (WPs 35 and 36)

The 2010 budget was revised by the Executive Committee at its meeting in Punta Arenas [WP 35]. To balance the budget, at the 2008 Delegates Meeting, it was agreed to cut SSG and SRP allocations by \$4k each. Salary costs were reduced with the retirement of the former ED, but the reduction was partially offset by the one-time allocation of \$20,000 for recruiting replacements for the ED and EO.

Income was augmented by external funds from the Sloan, Total and Tinker Foundations, providing flexibility. With partners, two additional grants were also obtained from ICSU of 30,000 euros each for work on IPY Education legacy issues and the MicroPerm project. A \$30,000 grant for travel for Latin American scientists to the IPY Oslo conference was also obtained in partnership with Norway. The latter included a small management fee for SCAR.

The SCAR Contingency fund from 2009 was used to offset the \$13.4k in additional spending in the 2010 budget, consistent with SCAR policy to use contingency funds to support unfunded, high priority SCAR activities.

Delegates approved the revised budget for 2010.

11.4 Budgets for 2011 and 2012 (WPs 37 and 38)

Current financial projections show that maintaining the present level of funding of SCAR activities would lead to a deficit in 2011 and deficits will grow in future years. At the XXX SCAR Delegates meeting (2008), budget forecasts suggested that an increase in membership fees was needed if the funding of SCAR activities was to remain at 2008 levels. In 2008, the Delegates agreed in principle that membership fees needed to be raised in 2010. In the interim, the US\$ - GBP exchange rate improved in SCAR's favour and several sources of external funding were awarded, so the membership fee increase in 2010 was postponed. In the meantime, 2009 and 2010 budgets were reduced as described above to balance the yearly budgets. SCAR has been operating on reduced budgets from 2009.

A Huiskes provided revised budget sheets and explained how the budget for 2011 could be balanced by reductions in allocations. Such reductions included resources to update the SCAR website, funds for CBET and outreach programmes, and postponement of the visiting Professor- and Secondment programmes.

Delegates noted that although the Fellowship Programme had been left intact, there would be reductions in other CBET activities, and agreed that attempts should be made to obtain voluntary contributions from members to support such activities (see Section 9.3).

The President noted that the pressure for reductions and a lack of agreement on an increase in membership fees meant that core SCAR activities were being affected.

Two budget scenarios were developed for 2012, one a 20% increase in fees and one with no increase. The scenario that included an increase would enable SCAR to proceed without reducing funding for core activities, as well as additional high priority expenditures for SSG and SRP science activities. The no fee increase scenario required continuation of budget cuts adopted in 2008 and additional reductions for CBET activities in the future.

Cost of living increases are about 3%/year, requiring even deeper budget cuts in 2013 and 2014 if memberships fees remain unchanged.

Delegates noted that some of the planned cuts might be offset by under-spends in the science programmes, however this cannot be a long-term strategy to balance budgets as policies have been put in place to reduce and possibly eliminate under-spending. If there is an under-spend between 2010 and 2011, the unspent funds will be returned to the general fund ("Contingency") for reallocation. The President noted that some groups, like Life Sciences, have demands that far exceed their allocation. There are always more requests for funds, than funds available. Delegates recognised that SSGs use their allocation as leverage, gaining significant additional funds beyond the SCAR allocations.

It was suggested that one way to approach the issue of contributions is to reduce the number of Membership categories to just 2 or 3, rather than 5. This would require extended discussion at a future meeting and delay action.

Delegates agreed the need for an increase in contributions of up to 20% in 2012, based on a business case that SCAR will provide for Delegates to take to their Funding Agencies.

Delegates adopted the 2011 and 2012 budgets based on no increase in fees.

Delegates also agreed that the EXCOM and Secretariat should produce a business case for an increase in membership fees to be considered at XXXII SCAR in 2012. This business case should be provided to the Members as soon as possible, in order for Members to discuss possible changes in membership fee with their funding agencies.

Action: SCAR Secretariat and Vice-President for Finance to develop a business case for an increase in membership fees to be considered at XXXII SCAR in 2012, by end of the year.

11.5 Financial Strategy (WP 39)

As agreed by EXCOM at its meeting in 2009, SCAR now has a Reserve Policy to cover the costs of routine meetings and admin costs (not including any loss due to exchange rates) for a full year plus 10%. Delegates may approve the use of reserve funds in cases of emergency. SCAR also has a Contingency Fund comprising funds left at year-end after committed funds and the reserve have been taken into account. These may be used for expenditures, with Delegate or EXCOM approval. In addition, groups may carry forward unspent funds from one year to the next within a biennium, but not from one biennium to the next unless there is compelling justification (e.g. savings for a future major meeting).

A Development Council will be assembled to advise SCAR on potential sources of external funds. Proposed terms of reference are:

- to review the potential sources of funding for scientific research in the Antarctic;
- to advise EXCOM on preferred avenues and mechanisms for soliciting external funds, identifying specific prospects where feasible;
- to develop strategies to cultivate and expand SCAR's donor base of support;
- to act as advocates for and proponents of SCAR's scientific activities.

Action: SCAR Secretariat and EXCOM to finalise Terms of Reference and membership for a Development Council before EXCOM 2011.

In order to improve the workings of the Finance Committee, the Standing Finance Committee will recruit the volunteer members by email at least two months before the Delegates meetings and begin discussions on budget strategies. The Committee should consider the SSG pre-meeting reports and assess the budgetary aspects of these reports. In instances when financial requests are not apparent in the SSG reports, the Chief Officers should be queried as to their plans for expenditures well in advance of the Delegates meetings. The Finance Committee in consultation with the Secretariat will produce a draft Financial Strategy and budgets at least one month before the Delegates meeting, to be reviewed and commented on by the SCAR EXCOM. At the Delegates' meetings the Finance Committee will revise the draft budgets in response to last minute requests or developments for presentation to the Delegates. In those years when budget outcomes are dependent on decisions yet to be

made by the Delegates, alternative budgets will be constructed based on various scenarios of possible outcomes of Delegates actions.

11.6 Ethics and Donations Policy (WP 40)

Approval of the final version of the Ethics and Donations policy will be carried over to EXCOM 2011.

Action: EXCOM to discuss and if necessary revise the SCAR Ethics and Donations Policy for approval at EXCOM 2011.

11.7 SCAR's Carbon Footprint

Holding SCAR meetings in different parts of the world raises the question of the extent to which this can be avoided to minimise the organisation's carbon footprint. Some meetings, for example might be held in a central location (such as Cambridge) to minimise the costs of moving it (or them) around the world. Other (smaller) meetings might be held using telephone conferencing (as is done for the preparation of the IPY-JC meetings) or video conferencing. The Executive Officer will prepare a paper on the subject for EXCOM 2011.

Action: Secretariat to prepare a paper on SCAR's carbon footprint for EXCOM 2011.

12. Future Meetings

12.1 SCAR Executive Committee Meeting 2011

The SCAR EXCOM meeting for 2011 will be held in conjunction with the 11th International Symposium on Earth Sciences (<http://www.isaes2011.org.uk/>) in Edinburgh, UK in July.

12.2 XXXII SCAR (Portland, 2012)

The SCAR President summarised briefly plans for the XXXII SCAR meeting (Portland, Oregon, 13-25 July 2012).

12.3 XXXIII SCAR (WP 41)

After a presentation by the New Zealand Delegate, Bryan Storey, Delegates accepted the offer of New Zealand to host the 2014 SCAR meeting.

13. Actions Arising

13.1 Progress against past actions (IP 25)

IP 25 on progress against past actions was provided for reference only.

13.2 Action list from XXXI SCAR.

It was agreed that a draft action list would be circulated to all Delegates prior to the actions being finalized.

13.3 Other Business

There was no additional business.

14. Closure of the meeting

The President formally closed the meeting at 1730 on 11th August, and invited the new Executive Committee to hold a short meeting.

Appendix: List of Acronyms

AAA	Astronomy and Astrophysics from Antarctica Group
AAD	Australian Antarctic Division
ACCE	Antarctic Climate Change and the Environment
ACE	Antarctic Climate Evolution
ADD	Antarctic Digital Database
ADMS	Antarctic Data Management System
AG	Action Group
AGCS	Antarctica and the Global Climate System
AGM	Annual General Meeting
AGU	American Geophysical Union
AMD	Antarctic Master Directory
ANDRILL	Antarctic Geological Drilling Project
AntEco	State of the Antarctic Ecosystem
AntETR	Antarctic Ecosystems: Adaptations, Thresholds and Resilience
ANTscape	ACE Subcommittee on Antarctic Paleotopographic Maps
APECS	Association for Polar Early Career Scientists
ATCM	Antarctic Treaty Consultative Meeting
ATHENA	Advancing TechNological and ENvironmental stewardship for subglacial exploration in Antarctica
ATS	Antarctic Treaty System
BAMM	Birds and Marine Mammals Group
BipAG	Bipolar Action Group
CAML	Census of Antarctic Marine Life
CBET	Capacity Building Education and Training
CCAMLR	Commission for the Conservation of Antarctic Marine Living Resources
CEP	Committee for Environmental Protection
CGA	Composite Gazetteer of Antarctica
CO	Chief Officer
CoC	Code of Conduct
COMNAP	Council of Managers of National Antarctic Programmes
CPR	Continuous Plankton Recorder
DCSA	Delegates' Committee on Scientific Affairs
DIMS	Data and Information Management Strategy
EBA	Evolution and Biodiversity in the Antarctic
ECA	Environmental Contamination in Antarctica
EG	Expert Group
EGU	European Geophysical Union
EXCOM	Executive Committee
GEOSS	Global Earth Observing System of Systems

GIANT	Geospatial Information – Geodesy
GIS	Geographic Information Systems
GPS	Global Positioning System
GS	GeoSciences
GWSWF	GPS for Weather and Space Weather Forecasting Action Group
IACS	International Association of Cryospheric Sciences
IAI	International Antarctic Institute
IASC	International Arctic Science Committee
IAU	International Astronomical Union
IceREADER	Ice core data component of READER
ICESTAR	Inter-hemispheric Conjugacy Effects in Solar-Terrestrial and Aeronomy Research
ICSU	International Council for Science
IGBP	International Geosphere–Biosphere Programme
IGS	International Glaciological Society
IGU	International Geographical Union
IGY	International Geophysical Year
INQUA	International Union for Quaternary Research
IODP	Integrated Ocean Drilling Program
IP	Information Paper
IPA	International Permafrost Association
IPCC	Intergovernmental Panel on Climate Change
IPICS	International Partnerships in Ice Core Science
IPO	IPY Programme Office
IPY	International Polar Year
ISAES	International Symposium on Antarctic Earth Sciences
ISMASS	Ice Sheet Mass Balance and Sea Level
IUBS	International Union of Biological Sciences
IUGG	International Union of Geodesy and Geophysics
IUGS	International Union of Geological Sciences
IUPAC	International Union of Pure and Applied Chemistry
IUPS	International Union of Physiological Sciences
JC	IPY Joint Committee
KGI	King George Island
LOC	Local Organising Committee
LS	Life Sciences
MarBIN	Marine Biodiversity Information Network
MetREADER	Meteorological data component of READER
MicroPerm	Permafrost Microbiology
NADC	National Antarctic Data Centre
NEEM	North Greenland Eemian Ice Drilling

OceanREADER	Oceanographic data component of READER
OSC	Open Science Conference
PACE	Past and Future Change of the Antarctic Environment
PACT	Action Group on Polar Atmospheric Chemistry at the Tropopause
PAMP	Protected Area Management Plans
PIC	Polar Information Commons
PLATO	PLATeau Observatory
PLT	Polar Large Telescope
POLENET	Polar Earth Observing Network
PPG	Programme Planning Group
PRB	Polar Research Board (US)
PS	Physical Sciences
READER	REference Antarctic Data for Environmental Research
ROP	Rules of Procedure
ROPSS	Rules of Procedure for Subsidiary Bodies
ROP-WG	Rules of Procedure for Working Groups
SALE	Subglacial Antarctic Lake Exploration
SAM	Southern Annular Mode
SC	Standing Committee
SCADM	Standing Committee on Antarctic Data Management
SCAGI	Standing Committee on Antarctic Geographic Information
SCAR	Scientific Committee on Antarctic Research
SC-ATS	Standing Committee on Antarctic Treaty System
SCOR	Scientific Committee on Oceanic Research
SCOSTEP	Scientific Committee on Solar Terrestrial Physics
SERCE	Solid Earth Responses and Influences on Cryospheric Evolution
SOOS	Southern Ocean Observing System
SRP	Scientific Research Programme
SSG	Standing Scientific Group
ToRs	Terms of Reference
URSI	Union Radio Scientifique International
WCRP	World Climate Research Programme
WMO	World Meteorological Organisation
WP	Working Paper