

**Report on SCAR Science Week (8-14 July, 2006)
(based on a report by Ian Allison)**

Hobart, Tasmania, Australia¹

8-19 July 2006

1. Planning and Preparations for SCAR XXIX/COMNAP XVIII

At its XXVII meeting, in Shanghai, SCAR had decided that its biennial meetings would be divided into two, with the SCAR Science Week being held in July and the SCAR Delegates' Meeting being held at some later time. This plan was first put into effect in Germany for XXVIII SCAR. However, at that meeting Delegates agreed that, because of the long travel distances from most SCAR nations to Australia, consideration should be given to recombining the Science and Delegates meetings to minimize travel costs. The SCAR Executive Committee subsequently adopted this plan for the Hobart meeting.

To ensure that the Hobart meeting was planned efficiently and effectively, the hosts, the Australian Antarctic Division, appointed a Project Manager, Ms Kate Kiefer, very early during the planning process. Kate attended the Bremen meeting to learn from the German experience and managed the Hobart project to its completion. Her continued involvement in the project provided vital continuity and leadership.

Once the Australian bid was accepted, a Local Organizing Committee (LOC) was established. Membership of this evolved as preparations for the meeting developed and the final membership is given in Appendix A of this report. In May 2005, Leishman and Associates, a local Hobart company, was appointed as the professional conference organizer (PCO) for SCAR/COMNAP 2006. Ms Denise Hobman was Leishman's account manager for the duration of the SCAR project.

Requirements for SCAR conferences are documented in "Guidelines for Organizers of Biennial SCAR Meetings" (2005 revised version), which provided the local organizers with detailed requirements for organizational structure, meeting room requirements and technical requirements. The LOC also worked closely with the SCAR Secretariat (Colin Summerhayes and Marzena Kaczmarek in Cambridge, UK) and the COMNAP Secretariat (Antoine Guichard in Hobart).

Electronic communication (web site and email) was primarily used to publicize the meetings, and the SCAR Open Science Conference in particular. Regular email notification was sent to all participants in the 2004 Bremen meetings, to SCAR National Committees, and to everyone who registered interest on the website or submitted an abstract.

The SCAR/COMNAP 2006 web site was opened on 1 September 2005 and continued to develop and include additional information during the build-up to the meetings. The conference web site was linked from both the SCAR and the COMNAP home pages, and from a number of national and international organizations.

As well as electronic communications, the following publications were also distributed: (i) Preliminary Notice (flyer): late July 2005; (ii) Conference Flyers: early November 2005, in two versions – one for the overall SCAR/COMNAP meeting, and one focussing on the Open Science Conference; (iii) Conference circular (44 pages), April 2006, mailed to all who registered interest; (iv) the SCAR/COMNAP 2006 Handbook and conference CD, containing abstracts from the Open Science Conference; distributed at registration (a limited number of copies may be obtainable from the Australian Antarctic Division).

2. SCAR Business Meetings (8-11 July)

The core elements of the first part of SCAR's Science Week were the business meetings of SCAR's Standing Scientific Groups (SSGs) on Physical Sciences, the Life Sciences, and Geosciences. Around these were clustered meetings or workshops of various SCAR Action Groups, Expert Groups, Scientific Research Programmes, and SCAR-led projects for the International Polar Year (IPY), as detailed in Appendix B.

The SCAR Executive Committee met on 11 and 14 July, along with Chief Officers of the SSGs and of the Joint SCAR/COMNAP Committee on Antarctic Data Management (JCADM) and of the Standing Committee on the Antarctic Treaty System (SC-ATS). The SCAR Executive Committee also met with the Executive Committee of COMNAP, on 12 July.

Additional science and management meetings were held in Hobart during the same general period to capitalise on the fact that many SCAR scientists would be coming to Hobart in July.

- (i) SCAR's Sea Ice Expert Group, ASPeCt (now a sub-project of SCAR's Scientific Research Programme on Antarctica in the Global Climate System - AGCS), held a 2 day workshop on "Antarctic Sea Ice Thickness" from 5 to 7 July.
- (ii) SCAR, together with the Partnership for Observations of the Global Ocean – POGO, and the Census of Antarctic Marine Life – CAML, organised a one day workshop on "Establishing a Coordinated Southern Ocean Observing System (SOOS)", which took place at the CSIRO Marine Laboratory's headquarters on 15 July.
- (iii) The first formal meeting of the International Antarctic Institute (IAI), of which SCAR is now an Associate Member, was held on 8 July.
- (iv) An International Polar Year (IPY) Consultative Forum was held on 8 July.
- (v) An International Forum on the Sub Antarctic was held on 6 - 8 July.
- (vi) A Latitudinal, Gradient Project Workshop was held on 10 July.

3. Second SCAR Open Science Conference (12-14 July)

The SCAR Executive Committee and Chief Officers meeting in Sofia, Bulgaria, in July 2005 decided that the theme for the Open Science Conference should be "Antarctica in the Earth

System". Organisation followed the model developed for the first conference (Bremen, 2004), with the SCAR and COMNAP meetings being held in parallel sessions, and the SCAR conference being divided more or less equally between oral and poster sessions, and with several parallel oral sessions. There were no pre-determined themes for the parallel sessions, which were to be organised into themes based on the abstracts received.

Following the Executive Committee plan the three-day science conference was structured as follows:

Day 1 (Wednesday 12 July):

- (i) The opening ceremony, including a brief opening session; the award of the SCAR medals; New Directions for ICSU, the International Council for Science; and Australian Science in Antarctica – a Look to the Future.
- (ii) A series of keynote talks on science, given in plenary:
 - Polar Regions and the Global Climate and Environment;
 - Antarctica in the Global Climate System,
 - Antarctic Climate Evolution;
 - Evolution and Biodiversity in the Antarctic: the Response of Life to Change;
 - Subglacial Antarctic Lake Environments: from a Curiosity to a Focus of Scientific research;
 - Solar-Terrestrial and Aeronomy Research in Antarctica and in the Arctic: how Polar Regions Interconnect;
 - The COMNAP Family and its Work;
 - The IPY and its Probable Impacts on Polar Science and Global Education and Outreach;
 - History of Antarctic Research.

Day 2 (Thursday 13 July):

- (i) Morning: three parallel sessions featuring keynote talks chosen by the SSGs/SRPs:
- (ii) Afternoon: multiple (up to 13) parallel sessions of oral presentations on selected submitted papers

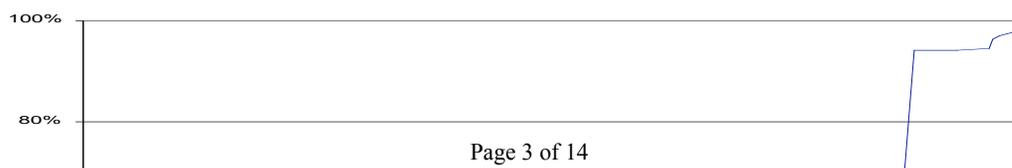
Day 3 (Friday 13 July):

Multiple (up to 13) parallel sessions of oral presentations of selected submitted papers.

4. OSC call for papers and abstract submission

All OSC scientific abstracts were submitted electronically using a commercially available abstract service ("Oxford Abstracts") linked from the conference web site. Abstract submission was opened in mid September 2005, and was originally planned to close on December 31 2005. After consultation with the SCAR Executive and secretariat, this deadline was extended to February 15 2006. A total of 750 abstracts were submitted for the OSC, and nearly 70% of these were submitted in the last week before closing (Fig. 1). A small number of abstracts were accepted after the final deadline where the authors had exceptional circumstances (Fig. 1).

Fig.1. Abstract submissions for 2nd SCAR OSC. Original submission deadline: 31 December 2005. Extended submission deadline: 15 February 2006.



An International Science Organising Committee (SOC) (see membership list in Appendix A) was appointed to vet the abstracts electronically using the “Oxford Abstracts” system, and to organise them into themes and oral or poster sessions. The SOC reviewed and graded all abstract submissions electronically. The SOC rejected eight abstracts predominantly because they were not about Antarctica. Of the 742 accepted abstracts, 68 were subsequently formally withdrawn (22 oral; 46 poster), either because an author could not attend the meeting or because the work to be reported was not completed in time.

The Executive Committee and Chief Officers of the SSGs in consultation with the leaders of SCAR’s Scientific Research Programmes selected the topics and speakers for the keynote talks.

The SOC identified 45 session themes (Appendix C), and the SOC assigned each abstract to one of these. Authors were notified by e-mail by 1 April 2006 of the status of their abstract submission and the theme to which it was assigned. The themes and all accepted abstracts (except where authors refused permission to release their abstract on the web) were then made available on the conference web site. All abstracts were distributed to OSC delegates on the SCAR/COMNAP 2006 conference CD when they registered.

To help plan and implement the conference, the SOC invited nominated experts to take on the role of “Theme Leaders”. The Theme Leaders played an important role in structuring the Conference and ensuring its success. Their responsibilities included:

- ordering the oral and poster presentations within a theme to make a logical presentation structure
- chairing one of the oral sessions in the theme and, where the theme extended over several sessions, selecting and appointing additional chair persons
- liaising with leaders of related scientific themes to minimize conflict between parallel sessions.

Developing a timetable to minimize conflicts between the 45 parallel themes was a significant challenge not only to the organizers but also to the SCAR objective to stimulate interdisciplinary

discussion. Factors affecting the timetable development included the physical separation of some of the venues (necessary to get enough rooms for multiple parallel sessions) and the length of presentation sessions (fixing oral sessions as blocks of an integral number of papers).

Around 50% of submitted papers were assigned to poster presentations. Poster spaces were assigned in a way that maintained the thematic order in Appendix C. All posters were displayed for the full 3-days of the OSC (and before where requested). There were two dedicated poster sessions each of one and a half hours (Thursday and Friday after lunch).

As well as formal withdrawals there were about 50 “no-shows” in the timetable (about 10 oral presentations and 40 posters). The “no-shows” left gaps in the actual timetable/presentation space. It is estimated that about 625 papers were actually presented at the 2nd SCAR OSC (i.e. around 85% of those submitted abstracts that were accepted).

5. Practical Aspects

Audio-visual and other technical facilities at most venues were provided under contract from a local supplier. All OSC oral presentations were submitted electronically in PC-compatible format to an in-house technician several hours in advance of the session in which they were to be presented. A meeting of Theme Leaders and session Chairs was held on the Tuesday evening before the OSC commenced, and “Notes for Chairs” were distributed. Both the meeting and notes emphasized the importance of maintaining strict time schedules for such a complex meeting.

An “Internet Café” (with 18 terminals and 2 printers) was available for delegates. Access to the high-speed conference LAN was also available to delegates through wireless connection.

6. Meeting attendance

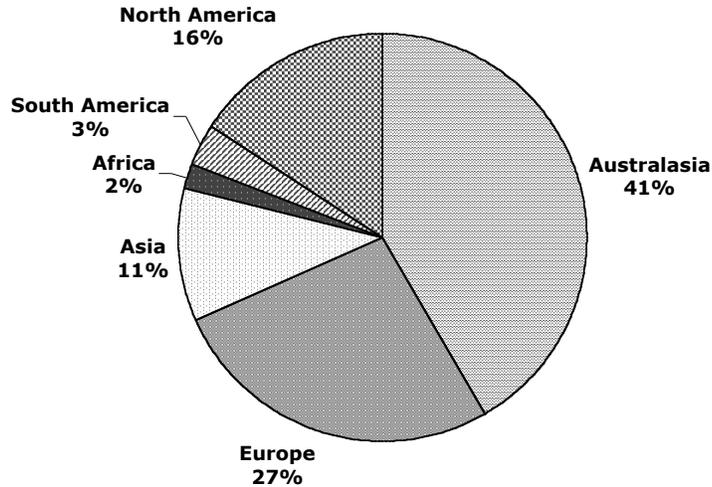
Registration for SCAR/COMNAP was handled electronically by the PCO. The online registration form, linked from the conference web site, allowed delegates to register for the many different meeting options, as well as to book accommodation and other services.

There were 719 registered attendees at the SCAR Open Science Conference (589 full registrations, 115 student registrations (16%) and 15 single-day registrations). 33% were from the host country (compared to 35% in Bremen in 2004). The OSC was the only event for which delegate registration fees were payable and these were set at:

Early-Bird (by 15 April)	Full \$A450/ Student \$A 250
Standard (by 30 June)	Full \$A525/ Student \$A 300
Late (after 30 June)	Full \$A650/ Student \$A 650
Single-day	\$A200

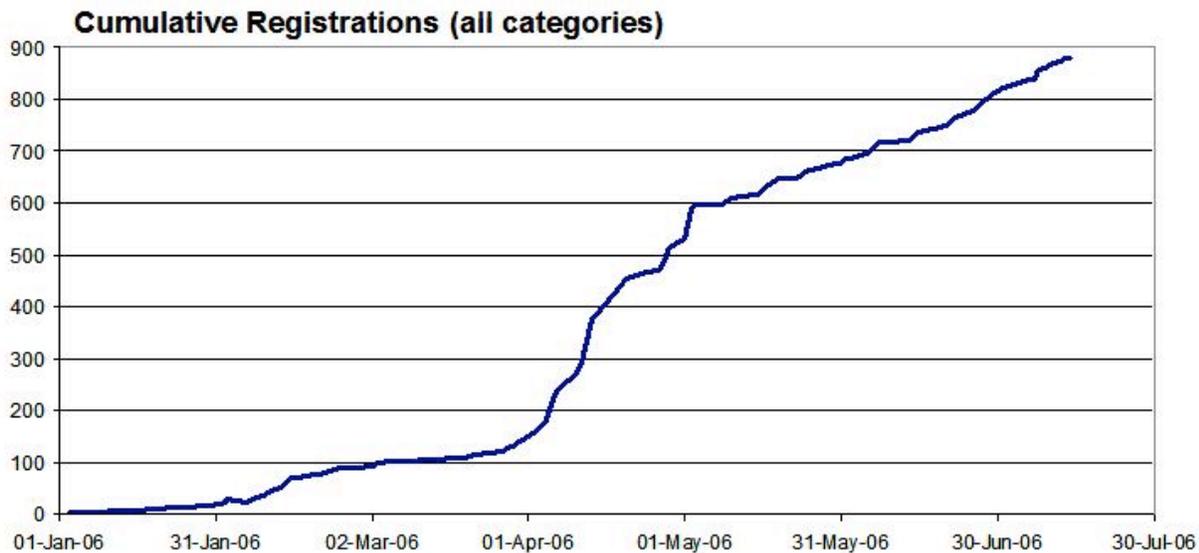
The total number of delegates who registered for all components of SCAR/COMNAP 2006 (corrected for cancellations) was 893, from 32 different nations. The breakdown of registration types and national participation is shown in Appendix D and Fig. 2.

Fig. 2.

Participation in the XXIX SCAR meetings - by continents

Cumulative registration for all categories of delegates (including OSC attendees) is shown as a function of time in Fig. 3. Although 43 % registered as “early birds” before April 15, nearly 60% of them did so in the last two weeks before the cut-off. Offering delegates a financial incentive to register early provided valuable and timely information to help plan the conference facilities.

Fig.3. Registrations for SCAR/COMNAP 200. Early-bird registration before 15 April 2006. Late registration after 30 June 2006. Meetings commence 8 July 2006.



7. Sponsors and Trade Exhibitors

Costs of holding SCAR/COMNAP meetings are the responsibility of the host and neither SCAR nor COMNAP contribute to the funding. While a registration fee was charged for the OSC (see above), fees were not charged to the participants in the SCAR or COMNAP Delegates meetings, the SCALOP Symposium or the SCAR science planning meetings. Gaining additional funding from sponsors and trade exhibitors to support these events was hence an important component of financing the meeting.

For SCAR/COMNAP 2006, one ‘gold’ sponsorship was secured early in the planning by negotiation. Additional sponsors and trade exhibitors were sought early in 2006. A copy of the booklet sent by e-mail to potential sponsors and exhibitors is available on the SCAR/COMNAP 2006 conference CD. The total external funding obtained for the meeting included:

Sponsors	~\$A 62,000	(1 gold, 2 silver, 5 bronze sponsors)
Trade exhibitors	~\$A 29,500	(13 trade booths additional to those for sponsors)
Advertising	~\$A 3,500	(in Handbook and satchel inserts)

Additional “in kind” support was also received for promotion, meeting venues and social events.

Notwithstanding this external funding, the great bulk of the support for SCAR/COMNAP 2006 was provided by the host institute, the Australian Antarctic Division of the Australian Government department of the Environment and Heritage.

8. Media coverage

SCAR/COMNAP 2006 attracted considerable media attention to Antarctic science and logistics, mostly within Australia but also from some international agencies. Fourteen media releases and four e-mail bulletins were issued by the conference media centre, and 49 interviews were held with individuals attending the meetings. Nearly 100 individual stories (electronic and print) were identified as resulting from the meetings.

9. Social Functions

The following SCAR social functions were organised during the meetings:

- The *Tasmanian Polar Network* Icebreaker - Sunday July 9th 6.30 pm at the Tasmanian Museum and Art Gallery,
- The SCAR Open Science Conference Welcome Reception – Tuesday July 11th 7.00pm to 9:00pm at the Hotel Grand Chancellor.
- The SCAR Open Science Conference Dinner – Thursday July 13th 6.30pm to 10.30pm at Wrest Point Hotel & Casino.
- SCAR Delegates Welcome Reception (invitation only) - Sunday July 16th at Government House.
- SCAR Delegates Banquet (invitation only) - Tuesday July 18th at Peppermint Bay restaurant, Woodbridge.

10. Summary and Recommendations

The total of nearly 900 registered attendees at SCAR/COMNAP 2006 was considerably greater than the local or scientific organizing committees expected. Facilities were however adequate to support this number of delegates, and the organisers were gratified that interest in Antarctica science and logistics was able to attract so many people to Hobart.

A comparison of attendees at SCAR/COMNAP 2006 with those at the 2004 meeting in Bremen shows:

	Total Attendees	OSC Attendees	Total OSC papers presented	Oral papers	Poster papers
Hobart 2006	893	719	624	344	280
Bremen 2004	1070	890	540	280	260

Both meetings had a similar number (~180) of attendees who attended COMNAP meetings and the SCALOP Symposium, but not the SCAR Open Science Conference.

Most of the feedback and comments received have been very positive. Delegates found the meeting productive and generally well managed and supported, and they had an enjoyable experience. They considered the meeting to be a resounding success.

The Local Organizing Committee (LOC) contributed significantly to that success. The conference was professionally organized and run, staff were always available at various venues to help if any problems arose.

The few criticisms that were received about the organization of the Open Science Conference mostly concerned issues that were a result of the requirement to schedule around 720 contributed papers into one and a half days of poster and oral presentation time. These included:

- there were too many parallel sessions and hence inevitable timetable conflicts,
- the poster display space was too crowded,
- some meeting venues were too far apart.

There were also some criticisms of the cost of registration for the 3-day OSC.

There are some things that we cannot change – e.g. it is always likely that the bulk of the abstracts for the OSC will arrive within the last week before the last deadline. Similarly, in planning the sessions, 95% of the work is generated by 5% of the delegates.

The following recommendations are consistent with those from the discussion at the XXIX SCAR Delegates meeting (17-19 July 2006).

We should not change the opening format, the keynote talks, the focus on SCAR science themes, and the balance between oral and poster sessions.

In future:

- (i) The themes should be decided in advance by the SSGs;
- (ii) The cost of the meetings should be kept as low as possible, especially for young scientists;
- (iii) SCAR should consider providing (or finding) some resources to subsidise the attendance of students (a proposal to do so in Hobart had unfortunately been rejected);
- (iv) There should be fewer parallel sessions (possibly achieved by adding a day to the OSC);
- (v) To the extent possible, all sessions should be held in the same basic venue to avoid having to walk between buildings to attend different sessions;
- (vi) More thought needs to be given to the way in which the poster sessions are organised in space and time, so as to get the best out of them;
- (vii) It is better to have a printed abstract volume than a CD (even better to have both), because a printed volume is easier to scan when deciding which talk to attend next;
- (viii) Presenters should be advised to rehearse their talks.

11. Acknowledgements

Many people contributed to make SCAR/COMNAP 2006 a success, including:

- many groups from within the Australian Antarctic Division (e.g. the SCAR/COMNAP project steering group, information technology, media, displays, stores, etc).
- almost 40 volunteer helpers from AAD and elsewhere who assisted delegates at the venue.
- the Local Organizing Committee and those who supported its work.

- the International Science Organizing Committee.
- the SCAR and COMNAP secretariats.
- the OSC theme leaders and session chairs.
- the Conference Organizers (Leishman Associates) and in particular the SCAR account manager.
- the production manager of the Trade Exhibition;
- staff at the Tasmanian Museum and Art Gallery and CCAMLR HQ.
- all local commercial suppliers, and the sponsors and trade exhibitors.
- not least the delegates to all events associated with SCAR/COMNAP 2006, who contributed their expertise, their enthusiasm, and the information that made the meeting such a valuable exchange on the very latest status of Antarctic science and logistics.
- above all, Kate Kiefer, whose tireless and cheerful efforts over more than two years as Project Manager, her attention to detail, and her commitment to getting tasks finished were primarily responsible for the success of the meeting.

Appendix A Membership of Organizing Committees**Local Organising Committee (LOC)**

Ian Allison (Chair, AAD & ACE CRC)
 Kate Kiefer (Project Manager, AAD)
 Robert Vincent (U.Adelaide)
 Denise Hobman (Leishman Associates)
 Roger Knowles (AAD)
 Bruce Mapstone (ACE CRC)
 Richard Mulligan (AAD)
 Jo Jacka

International Scientific Organising Committee (SOC)

Clive Howard-Williams (Chair, NZ)
 Zhang Zhanhai (China)
 Jo Jacka (Australia)
 Mike Meredith (UK)
 Maurizio Candidi (Italy)
 Dana Bergstrom (Australia)
 Julian Gutt (Germany)
 Alessandro Capra (Italy)
 Rob Dunbar (USA)
 Chuck Kennicutt (USA)
 Ian Allison (representing LOC)
 Colin Summerhayes (SCAR)
 Marzena Kaczmarek (SCAR)

Appendix B. Business Meetings (July 8-11) (for acronyms see Annex 1)

1. Joint SCAR/COMNAP Committee on Antarctic Data Management (JCADM)
2. Expert Group on Geospatial and Geographic Information (EGGI)
3. Antarctic Permafrost and Soils (ANTPAS)
4. Evolution and Biodiversity in the Antarctic (EBA)[and on 12 July]
5. Antarctica in the Global Climate System (AGCS)
6. Antarctic Climate Evolution (ACE) [on 12 July]
7. Expert Group on Human Biology and Medicine (with and without MEDINET)
8. SCAR IPY Committee
9. Antarctic Seismic Data Library (SDLS)
10. ANDRILL
11. GIANT and POLENET
12. ICESTAR/STREPS/MADREP
13. SCAR/SCOR Expert Group on Oceanography
14. Antarctic Astronomy
15. International Trans-Antarctic Scientific Expedition (ITASE)
16. Interdisciplinary AGCS/ACE/EBA Workshop
17. Latitudinal Gradient Project Workshop
18. AGAP-IPY
19. International Program for Antarctic Buoys
20. Integrated Circumpolar Ecosystem Dynamics (ICED)[and on 12 July]
21. Seals
22. Census of Antarctic Marine Life (CAML)
23. Plates and Gates and BIPOMAC (IPY projects)
24. Operational Meteorology/WMO IPY
25. SASSI

Appendix C Session Themes and papers accepted for Open Science Conference

This compilation excludes 68 accepted papers that were formally withdrawn before the start of the conference. It does not exclude papers withdrawn without notification – “no shows”. It is estimated that about 40 poster presentations, but only about 10 oral presentations, were “no shows”.

session	Session title	oral	poster	total
100	Plenary	11		11
111	Physical Sciences SSG sub-Plenary	6		6
112	Life Sciences SSG sub-Plenary	6		6
113	Geosciences SSG sub-Plenary	6		6
210	Evolution and structure of the Antarctic continent	6	5	11
211	Antarctic Tectonics and Siesmicity	16	14	30
221	Cenozoic Climate and the transition to the Icehouse	9	15	24
223	Pleistocene variability recorded in sediments and ice cores	7	11	18
224	Palaeoclimate of the Holocene and recent past	11	5	16
230	Permafrost and Soils in Antarctica		6	6
310	Subglacial lakes	4	2	6
311	Surface and bedrock topography and dynamics of the Antarctic ice sheet	4	8	12
312	Ice sheet and glacier mass balance and variability	13	8	21
313	Characteristics of ice shelves, ice tongues and icebergs, and their interaction with the ocean	11	12	23
320	Weather and climate of the Antarctic region	10	8	18
321	CO ₂ , Ozone and other atmospheric trace gases over the Antarctic	5	7	12
322	Aerosols	4	9	13
330	Sea ice and its interaction with Southern Ocean climate	9	5	14
331	The Southern Ocean and its role in the global climate system	6	7	13
332	Water masses, circulation and variability in the Southern Ocean	10	7	17
333	Biogeochemistry of the Southern Ocean		8	8
401	Integrated analyses of circumpolar Climate and Ecosystem Dynamics in the S. Ocean (ICED)	11	5	16
402	Response to environmental change in the marine ecosystem	11	2	13
403	Marine biodiversity and adaptation	10	5	15
404	Marine ecosystem function	9	4	13
405	Marine trophic interactions	5	3	8
410	Ecology of krill	9	2	11
411	Ecology of marine mammals	12	14	26
412	Near shore benthic ecosystems	3	4	7
413	Sea-ice zone ecosystems	2	4	6
414	Deep water pelagic ecosystems	10	4	14
415	Fish physiology, evolution and behaviour	6	3	9
420	Evolution and function of Antarctic microorganisms	3	7	10
421	Biodiversity of terrestrial and limnetic ecosystems	6	15	21
422	Terrestrial and limnetic ecosystems: environments and response to change	10	3	13
423	Terrestrial and limnetic ecosystems: life history strategies and performance	6	4	10

424	Variability in terrestrial and inland water ecosystems		9	9
430	Environmental impacts, protection and remediation	17	9	26
440	Human health and well-being	11	7	18
510	History, philosophy and education in Antarctic science	5	2	7
520	Strategies for Data Presentation and Management	8	7	15
	International and National Data Centers: Coordination and			
521	Activities		13	13
530	Technology	5	7	12
531	GPS Applications and Techniques		11	11
610	Magnetosphere/ionosphere/mesosphere coupling	19	20	39
621	Fields and waves	6	4	10
622	Global electric circuit	4	3	7
630	Antarctic astronomy and cosmic ray research	12	9	21
700	Miscellaneous (un-assigned)		3	3
	Total	354	320	674

Appendix D. Attendance Statistics

Total SCAR/COMNAP 2006 Registrations	893
Number of nations represented	32

Category of Registration (categories overlap)

SCAR 2 nd Open Science Conference (excluding trade exhibitors and media)	719
Meetings of SCAR Scientific Steering Groups	207
SCAR XXIX Delegates	82
12 th SCALOP Symposium	106
COMNAP XVIII Delegates and working groups	105

Nationality of registrants for SCAR Open Science Conference:

Nation	Full registration	Student registration
Argentina	2	
Australia	166	56
Belgium	5	2
Brazil	12	3
Bulgaria**		
Canada	6	2
Chile	5	
China	17	1
Denmark	1	
Finland	4	1
France	14	2

Nation	Full registration	Student registration
Norway	9	
Peru	1	
Poland	10	
Portugal	1	
Russian Federation	4	
Slovenia	1	
South Africa	12	2
Spain	8	
Sweden	1	
Ukraine	5	
United Kingdom	45	4

Germany	34	5
Hungary	1	
India	14	1
Italy	28	1
Japan	20	
Republic of Korea	9	
Malaysia	13	
Netherlands	3	
New Zealand	41	14

USA	97	21
Total	589	115
Single day reg. (Australia)	15	
Regular+ Student+Day	719	
Media registration	8	
Exhibitor registration	31	
Grand Total	758	

** represented at SCAR and COMNAP Delegates meetings, but not at the OSC

Registration type for SCAR Open Science Conference:

Regular	early-bird	440	
	standard	123	
	late	18	
	concession	8	589
Student	early bird	88	
	standard	26	
	late	1	115
	Single day	15	15
	Total		719