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Report on SCAR Structural Review

Report on the SCAR Structural Review 20-21 April 2015

The SCAR Structure Review Group (RG) solicited input from the SCAR community via an online survey. XX survey responses were received. The Structure Review Group met for a 2-day period in April, 2015. The current structure of SCAR science groups was reviewed and some models from other science groups were considered. A summary of survey responses was presented and discussed. The group then reviewed, in turn, the Standing Scientific Groups (SSGs), including the structure of their subsidiary bodies, Scientific Research Programmes (SRPs), Standing Committees and Advisory Groups and other groups (Humanities, Social Sciences), the SCAR meeting structure, and operation of the SCAR Secretariat. A summary of key points and recommendations from the Review Group discussions is provided below.

A. *Standing Scientific Groups*

Disciplinary science groups have a core position in the SCAR science structure. Issues with the SSGs, identified based on both survey and RG comments, include:

- Poor level of attendance at biennial SSG business meetings. The lack of representatives from a multitude of SCAR nations is most concerning.
- Lack of clarity on what SSGs should do and, therefore, the purposes of the business meetings, who should participate and in what capacity.
- Insufficient focus on science, particularly future science activities and international collaboration in science during SSG business meetings.
- Lack of clarity on tasking of SSGs for review of SRPs and other subsidiary bodies.
- Lack of clarity on difference between Action Groups and Expert Group subsidiary bodies.

The Review Group (RG) recommends:

- 1) The current disciplinary group structure, consisting of Life Sciences, Physical Sciences and Geosciences should be retained.
- 2) Names of the disciplinary groups should be simplified: X Standing Group to X Group (e.g. Life Sciences Standing Scientific Group = Life Sciences Group).
- 3) Clear statements about the role of disciplinary groups should be drafted, highlighted on the SCAR web site, and circulated to delegates, national committees, and scientists from SCAR nations. The important roles of the disciplinary groups include:
 - Serving as an incubator for multinational initiatives at the cutting edge of Antarctic science, for example, in promoting science linked with the SCAR Horizon Scan questions.
 - Actively promoting cross-disciplinary polar science
 - Promoting connections between SCAR science, and polar science in general, and research initiatives supported by international science organizations
 - Providing a platform for scientists from SCAR nations to leverage their science by developing collaborative programs involving multiple nations.
 - Creating, reviewing, and terminating SCAR science groups.
 - Decisions on creating/terminating 'task groups'
 - Recommendations to delegates on scientific research programmes.
 - Allocation of SCAR science funds to the most important science activities

- 4) Each nation that is a full member of SCAR should nominate up to 2, but a minimum of 1, national representative to the disciplinary groups. Each associate member should nominate 1 national representative.
 - The national committees for each SCAR nation should be reminded of their obligation to nominate representatives and also to fund their participation in the biennial SCAR meetings.
 - There will be 1 voting member from each SCAR nation on each disciplinary group.
- 5) There should be 1 type of subsidiary body to the disciplinary groups, to be called a 'Task Group'; the current structure of 'Action Groups', 'Expert Groups' and 'Scientific Programme Planning Groups' should be eliminated.
 - Terms of Reference for 'Task Groups' needs to be drafted, based on current AG/EG TOR, but should emphasize that the lifetime of a group will be commensurate with the task (i.e., there is no set term limit, the continuation of a group will be subject to review and recommendation by the disciplinary group). The TOR should make clear that it is expected that scientists from numerous SCAR nations should participate, that there should be a clear capacity-building component to group activities, and that 'virtual activity' (i.e., activities conducted online) will take place between the biennial SCAR meetings.
 - Clear directions about how and when to propose a 'Task Group' should be posted in a prominent, 'up front' position on the SCAR website.
 - A web-based 'call for participation' for each 'task group' should be part of the pre-proposal development phase of a group, and also an ongoing item on the web page for each group. Several months prior to the biennial SCAR meetings, SCAR web/facebook/twitter interfaces should put out messages 'are you interested in proposing a SCAR science group?', 'do you want to participate in a SCAR science group?', with links to the pertinent SCAR web-based information.
- 6) The schedule of the biennial meetings of the disciplinary groups should be changed from 2 days, 1 before and 1 after the Open Science Conference (OSC), to 1 day in the middle of the OSC.
- 7) The structure of the 1-day disciplinary group meetings should have 3 components:
 - Plenary Science Forum (~ 3 hours)
 - Disciplinary Science Forum (~3 hours)
 - Business Meeting (~ 1.5-2 hours)

The Plenary Forum and the Disciplinary Forum should be open to all interested scientists.

The Business Meeting should be a meeting limited to national representatives from each SCAR nation, with 1 representative designated for voting purposes.

The Plenary Forum and Disciplinary Forum should be focused on SCAR science activities, present and future, in particular in the context of the SCAR Horizon Scan. The Plenary Forum should be focused on cross-disciplinary science. The Disciplinary Forum should focus on discussions of new science directions. The Business Meeting should focus on items requiring voting. Items to be reviewed and voted on during the Business Meeting should be announced well in advance, with appropriate digital documentation. The COs of the Geosciences, Life Sciences and Physical Sciences groups should jointly structure the Plenary Forum and each CO should structure their Disciplinary Forum, in consultation with SCAR science groups. Topics and agendas for these meetings should be announced well in advance, in conjunction with the OSC program, so scientists attending the OSC can plan to participate.

Some suggestions regarding structuring the fora include:

- Use the Horizon Scan to shape the agendas – are they interdisciplinary topics being addressed (Plenary Forum), are disciplinary questions being addressed (Disciplinary Forum), what collaboration would facilitate addressing the Horizon Scan questions, in what ways could small subsidiary groups contribute, etc.

- Reporting to each forum should use templates, reports should be submitted digitally and in advance, and only discussion topics should be presented orally.
 - Consider inviting early-career speaker(s) to discuss Horizon Scan topic(s)
 - Discussions intersessionally on topics prior to the meetings should be promoted.
 - Much of the 'business' should be completed in advance
 - Consider selecting and funding one early-career scientist for each disciplinary forum, to act as 'correspondent'
- 8) Task statements should be drafted, approved, then posted online, for:
- a) Each meeting component (Plenary, Disciplinary, Business)
 - b) National representatives to disciplinary groups
 - c) Officers of disciplinary groups
- 9) Reporting on the disciplinary science activities of individual nations should be done via a digital report to be posted online, not by oral report during the Disciplinary Forum.
- 10) Poor attendance at the business meetings of disciplinary groups is a major concern, impacting SCAR science activities, strategic planning, advice to the treaty, and continuity of group leadership. To improve participation:
- a) Each SCAR nation should be reminded of their commitment to provide support to their national representatives to participate in the disciplinary group meetings.
 - b) Meeting agendas and business items should be announced widely, and well in advance, to stimulate interest in participation.
 - c) Virtual meeting attendance should be explored. Investment in the technology required to implement quality virtual attendance may be justified:
 - given poor attendance of national representatives at SCAR business meetings, which survey indicates is to a significant extent due to funding issues
 - to allow early-career scientists to participate
- 11) Disciplinary group officers should provide clear mandates to SRPs and all subsidiary groups, including:
- a) that groups should make every effort to coordinate with other relevant groups
 - b) that clear workplans and deliverables are required – request this via a template.
 - c) That groups are expected to contribute to the SCAR Open Science Conferences
- 12) Currently procedures for reporting from groups, and evaluation of groups, are contained within the 'Rules of Procedure for Subsidiary Bodies'. In addition, the RG recommends that:
- a) Report templates are created and used. Information requested should be brief, recognizing that both group officers and the national representatives responsible for evaluation are volunteers with limited time available for the task.
 - b) The process and timing of report submission should be posted on the SCAR website and also circulated several months in advance to the officers of each subsidiary group, together with the reporting template
- 13) Recommended clarifications with regard to the status of some existing/proposed SCAR subsidiary groups:
- a) An additional disciplinary group on the cryosphere is not recommended.
 - Survey results were strongly against proliferation of groups.
 - Cryosphere science is broadly interdisciplinary and has a home in all 3 disciplinary groups.
 - Several subsidiary groups currently address aspects of cryosphere science (e.g., IPICS, ISMASS, ASPeCt); more can be proposed as needed/appropriate.

- b) Southern Ocean science within SCAR has 'homes' within the Physical Science disciplinary group, co-sponsored groups (e.g. SOOS, ICED) and Task Groups.
- c) History and Social Sciences should retain their current status, reporting to Excom/Delegates, without a requirement for national representatives to the groups:
 - Humanities Group (note: no national rep nomination required)
 - History Task Group
 - Social Science Task Group
- d) ICED has their principal home in the Life Sciences Group.
- e) The Antarctic Climate Change and the Environment (ACCE) Advisory Group should be a 'task group' under the Physical Sciences disciplinary group.
- f) Cross-disciplinary groups (existing and new) to have 1 disciplinary group 'home', but should be discussed/reviewed in Plenary Forum

B. Scientific Research Programmes (SRPs)

Survey results, and considerations of the Review Group indicate that the SRPs are functioning well overall. Issues regarding SRPs included:

- Lack of clarity on whether groups were open to all interested scientists, and on how interested scientists can participate. Concerns were raised the SRPs appeared limited to 'in groups' of scientists.
- The review process for SRPs – multiple reports with repetitive content were presented, and there were mixed messages about whether the SSGs, and/or the Delegates, evaluated SRP progress.

The Review Group (RG) recommends:

- 1) The leadership of the SRPs, the disciplinary Groups, and the Secretariat, implement the following suggestions to make SRPs more 'inclusive' to all scientists:
 - a) Issue regular calls for participation. Avenues should include the SCAR website, email lists, and social media.
 - b) The Secretariat should develop a set of suggestions to be sent to all SRP leaders on ways to encourage participation
 - c) The website for each group should clearly indicate how to join email lists and who to contact for further involvement and to secure letters of support for participation.
 - d) A 'SCAR science' 'town hall' at AGU/EGU to make SCAR activities better known to broader science community should be considered.
- 2) Science review of SRPs should be done by disciplinary groups, or broadly where cross-disciplinary, by multiple disciplinary groups. A template for review (modified from the existing external review template) should be created.
- 3) SRPs should continue to report to all levels of stakeholders, however these reports should not just be repeats of the same topics. SRP reporting should be structured as follows:
 - a) To disciplinary groups: report on science / future science ('think tank')
 - b) To delegates: Major science highlights and future activities
 - c) To community via review presentations (at the Plenary Forum and/or the Open Science Conference, as invited by organizers) and thematic sessions at the Open Science Conference

C. Other SCAR Groups

Standing Committees

Discussion and input indicated that the current names and structure should be retained for the Standing Committee on Antarctic Data Management (SCADM), the Standing Committee on Antarctic Geographic Information (SCAGI), the Standing Committee on the Antarctic Treaty System (SCATS) and the Standing Committee on Finance.

The Standing Committee on Antarctic Data Management (SCADM) and the Standing Committee on Antarctic Geographic Information (SCAGI), which are both meant to have representatives from each SCAR nation, share common issues in:

- Not all countries nominate members
- Not all nominated members fully participate

The RG recommends:

- 1) The Secretariat/Executive Director reminds national committees, and the Delegates, about the need to nominate and fund participation of a national representative.
- 2) The Secretariat, working with the officers of the standing groups, endeavors to maintain an up-to-date list of National Data Centers and contact persons for these centers, and work with these entities and national committees to identify persons with appropriate expertise to serve on the standing groups.
- 3) The Secretariat works with SRP leaders to facilitate participation of SCADM members on steering committees, to ensure that data collection via SRP activities is linked with SCADM efforts.
- 4) To facilitate the work of the Standing Committee on the Antarctic Treaty System (SCATS), the Secretariat should work with disciplinary group leaders and national delegates to compile a list of expertise for all national representatives to SCAR groups.

Advisory Groups

The SCAR Development Council should be retained with the same name/status. This group should be 'coded' on SCAR organization chart in the same way as the Capacity Building Education and Training Group.

The RG recommends the following for the Capacity Building Education and Training Group:

- 1) The group should forge strategic connections with the SRPs and other disciplinary groups on opportunities and initiatives, to better coordinate efforts.
- 2) The group, working with the Secretariat staff, should remind Delegates and national committees to widely distribute information about the SCAR fellowships and visiting professor opportunities.
- 3) Applications for Fellowships are commonly of poor quality from individuals lacking experience with writing proposals. To encourage high-quality fellowship proposals, the CBET group should:
 - a) Organize proposal-writing workshops, both physically (e.g. at OSC) and virtually via webinars, on proposal writing.
 - Prior fellowship awardees should be recruited to participate in these activities.
 - Regional conferences, for example in Latin America or Asia, to provide overviews of SCAR science programs and contact information, to facilitate science connections for potential fellowship applicants.
 - b) Organize a list of SCAR scientists willing to provide mentorship to first-time proposal writers, and provide contact information on the SCAR website.

A suggestion for a new 'Partnerships' advisory group was discussed. The RG felt that a new group was not required. However, the SCAR Secretariat/Executive Director should make the current

partnerships more visible on the SCAR website. Also, the SRPs and other SCAR science groups should be encouraged to recommend any organizations that SCAR should seek partnerships with.

D. SCAR Meetings

Business Meetings – discussed under Item A – Standing Scientific Groups

Open Science Conference

The RG recommends retaining the Open Science Conference biennial meeting cycle with the rationale:

- The 2-year cycle allows PhD students to participate within their education cycle.
- Attendance in the meeting continues to grow and quality of science presented is very high
- Frequent meetings promote connections within the community and keeps collaborations active

Survey concerns raised included the substantial costs of the meeting registration and concerns about topical overlaps in scheduling sessions. The RG felt that adequate cost-control and meeting planning procedures are already in place to deal as effectively as possible with these perennial issues.

Meetings of Subsidiary Groups linked with the Open Science Conference

There is a clear need to provide more detailed information about these meetings well in advance of the OSC, so scientists can decide on participation. Specifically:

- Meetings should be designated as ‘open’ to all interested scientists, ‘steering committee only’, etc.
- Meeting agendas and contact person(s) should be provided on the OSC website well in advance

Other SCAR Science Meetings

Survey input, and RG discussion, confirmed that the SCAR Biology Symposium and the International Symposium on Antarctic Earth Sciences, each convened every 4 years, are highly valued by their respective science communities and should be continued.

The ‘Cross-Linkages’ meetings, attended by officers of the disciplinary groups and SRPs, are important and should be continued. The occurrence of these meetings and their outcomes should be more widely advertised via the SCAR website and newsletters.

Delegates Meeting

The original intention of the temporal separation of the Open Science Conference/Business Meetings from the Delegates Meeting has proven untenable due to funding limitations. Therefore, a sequential meeting structure at a single venue is recommended going forward.

The Delegates should be encouraged to participate in the Open Science Conference and, specifically, in the mid-conference ‘Plenary Forum’ and ‘Disciplinary Forum’ meetings – these should serve as the principal means of informing Delegates about the progress of SCAR science groups.

The pros and cons of separate ‘Science’ and ‘Administration’ Delegates session conducted in parallel were reviewed. Although the separate meetings promoted more discussion, the time penalty in reviewing outcomes to the entire delegate assembly was deemed prohibitive. The single Delegates session was endorsed. However, to encourage more active participation/discussion by a larger number of national delegates during the session, the following is recommended:

- Each agenda item is clearly earmarked with the level of action required, e.g. ‘approval by vote’, ‘information item’, ‘evaluation’, etc.

E. SCAR Secretariat

The consensus of survey input and RG discussion is that the SCAR Secretariat functions well.

The RG recommends that high priority be put on improving communications within the SCAR science community by:

- 1) Encouraging all SCAR groups to provide content for the SCAR website. Frequent reminders, simple templates to solicit key paragraphs of missing information, and tips for most easily generating content, are tools that can be used.
- 2) Development of autonomous email lists and listserves should be a priority.

F. Other Issues:

i) The SCAR organizational structure, and the missions of all SCAR groups, need to be presented in simple language. Currently the 'Science' tab on the SCAR website is a list of the 'acronym soup' of SCAR science groups. A new, up front, brief, explanatory section – cross-linked between the 'About Us' and 'Science' tabs on the website, should be developed to explain in a more accessible way how SCAR does science. Suggestions for this include:

- New organograms should be created:
 - Simplified structure of science groups
 - Venn diagram to show cross-disciplinary structure
 - Full organogram with reporting structure (similar to present one)

ii) The ways in which a scientist can participate in SCAR science activities should be highlighted on the website, perhaps in a specific tab 'how to participate'. It needs to be clear that participation in SCAR science activities is open, in order to encourage involvement by early-career scientists and scientists from nations with emerging polar/Antarctic research programs. Suggestions include:

- Make clear meetings that are 'open' well in advance
 - e.g. meeting announcements, agenda items, who to contact pre-OSC
- Add Link: 'Add your name to participant list'/contact info list....

iii) It is important to ensure that SCAR science activities and contributions are recognized by national agencies and the international science community, and that SCAR is at heart of global interest in polar/Antarctic science. To that end, recommendations are:

- Ensure that 'SCAR' is used in the title of all groups during presentations, reports, publications, etc.
- Promote the use of the SCAR logo in presentations, reports, publications, etc., by featuring this on the website of each SCAR subsidiary group.
- Nominate 'liaison' representatives to international organizations with parallel science interests, with the mandate to present SCAR science activities and promote linkages.
- Create a database of scientific expertise for the national representatives to SCAR groups, so they can be called upon when input is required by other groups/committees (within SCAR and external to SCAR)
- Encourage overview presentations by representatives of SCAR science groups at the SCAR Open Science Conference and at international science meetings.
- Encourage overview publications about outcomes of SCAR science activities in international journals.
- Develop a procedure for labeling publications linked with SCAR science activities, e.g. 'contribution from SCAR Group XYZ'
- Provide an estimate of how many scientists SCAR 'represents' by compiling numbers from email lists and OSC participation

iv) Communications within the SCAR community can be enhanced by:

- On the SCAR web site, under 'About Us', there should be a new section entitled something like 'This is how SCAR works', which would contain short, simple statements about the mission of each type of SCAR group, a simple 'organogram', and how to participate.
- Facilitating inclusion of information on all SCAR groups and activities on the website:
 - SCAR Secretariat staff should review and identify missing information, then work with group leaders to fill in this information, by reminders to leaders of SCAR groups about information required, perhaps with simple templates to solicit information.
- The SCAR Secretariat should further promote participation of national representatives in the disciplinary groups, by:
 - Developing improved path(s) to keep roster of *who* the national reps are up to date
 - Devising path(s) to improve responsiveness of national reps
 - Requesting the disciplinary groups to record and report who does/does not participate in biennial meetings
 - Sending suggestions/examples to national reps about how they can communicate with their respective national science communities
- The Secretariat, working with the leaders of each subsidiary group, should redouble efforts to maintain up-to-date email lists and, as needed, build listserves to disseminate information. Clear links entitled 'add your name to the group email list' should be up front on each group's website.
- Dissemination of information about groups and activities via the range of popular social media sites should be increased in order to reach young scientists in particular

G. SCAR Rules of Procedure

Need to identify and flag items in the Rule of Procedure, and Rules of Procedure for Subsidiary Bodies, that need to be modified based on the recommendations above.....