

Scientific Committee on Antarctic Research

SCAR Membership Guide

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Introduction to SCAR

In 1958, the International Council for Science (now the <u>International Science Council - ISC</u>), created the Scientific Committee on Antarctic Research (SCAR) as an interdisciplinary body to help coordinate international research in and about the Antarctic. The ISC is a non-governmental organisation with a global membership of national scientific bodies and international scientific unions, and SCAR forms one of its <u>thematic organisations</u>. SCAR currently includes 46 member countries and 9 ISC unions and strives to include new members, as countries not yet engaged develop an increasing interest in Antarctic science.



Map of SCAR member countries in 2022 – **Full Members** are in dark blue, **Associate Members** in lighter blue. Union members in 2021 are International Astronomical Union (IAU), International Geographical Union (IGU), International Union for Quaternary Research (INQUA), International Union of Biological Sciences (IUBS), International Union of Geodesy and Geophysics (IUGG), International Union of Geological Sciences (IUGS), International Union of Physiological Sciences (IUPS), International Union of Pure and Applied Chemistry (IUPAC and Union Radio Scientifique International (URSI).

SCAR's mission is to advance Antarctic research, including observations from Antarctica, and to promote scientific knowledge, understanding and education on any aspect of the Antarctic region. To this end, SCAR is charged with the initiation and international co-ordination of Antarctic and Southern Ocean research beneficial to global society. In addition, SCAR provides independent and objective scientific advice and information to the Antarctic Treaty System and other bodies and acts as the main international exchange of Antarctic information within the scientific community.

SCAR's vision is to create a legacy of Antarctic research as a foundation for a better future. Through scientific research and international cooperation, SCAR aims to establish a thorough understanding of the nature of Antarctica, the role of the Antarctic in the global system, and the character and effects of environmental change and human activities on Antarctica. Members of SCAR benefit by being part of a global network of countries and ISC unions that work together to advance Antarctic research, promote knowledge and understanding of the Antarctic region, and provide independent and objective advice to policy-makers.

In 2014, SCAR sponsored the <u>1st Antarctic and Southern Ocean Science Horizon Scan</u>. Through this activity, the Antarctic community was asked to submit research questions that should be considered over the next two decades. The world's leading Antarctic scientists, policy makers, leaders, and visionaries helped to distil the submissions into 80 of the most important questions that will or should be addressed by research in and from the southern Polar Regions. The results from this community-based effort were published in <u>Nature</u> and <u>Antarctic Science</u> and serve as a platform for future SCAR research planning and feed into science priorities for many national programmes.

The 2023-2028 Strategic Plan lays out high-level objectives for the organization in the years ahead. It can be downloaded from the <u>Strategic Plans section of the SCAR Library</u>. The Executive Summary is included as Appendix 1 in this document.

The organisation of SCAR and how it works

The membership of SCAR comprises ISC-affiliated national scientific academies or research councils (or the organisation designated by the national ISC representative body) of countries that are active in Antarctic research, together with the relevant Scientific Unions of the ISC.

SCAR Delegates

SCAR meets every two years, in the even years, to conduct its administrative business at the SCAR Delegates' Meeting. At these meetings, the members of SCAR, through their appointed Delegates, are responsible for formulating SCAR policy and strategy. They also elect an Executive Committee from among themselves to manage SCAR on behalf of its members. The Executive Committee comprises the President and four Vice-Presidents (each appointed for a term of four years), the immediate Past-President (appointed for a term of two years immediately following their presidency), and the SCAR Executive Director. The roles and responsibilities of the President and Vice Presidents are detailed in Appendix 2.

The <u>SCAR Secretariat</u> is staffed by the Executive Director, Executive Officer, Project Officer and a part-time Administrative Officer. The Secretariat is responsible for the day-to-day administration of SCAR and is accountable to the Executive Committee.

SCAR's policy and strategy is formulated by its members through their appointed Delegates, and is decided by the voting members at the Delegates' Meeting. In addition to electing the Executive Committee, these powers include decisions on which research areas to cover, budget allocations, interactions with the Antarctic Treaty System and other bodies, and partnerships with other organizations.

Research Groups

The work of SCAR in achieving its mission is carried out by its many and varied groups. SCAR is currently composed of three permanent, disciplinary Science Groups (Geosciences, Life Sciences and Physical Sciences), three flagship Scientific Research Programmes focusing on high-priority topical areas, five Standing Committees to handle ongoing business of a permanent nature, and over 30 specialized subsidiary Expert and Action groups serving to address various scientific needs over a limited timeframe. All SCAR groups are allocated budgets for their activities and are governed by the <u>Rules of Procedure for Subsidiary Bodies</u>. They are periodically reviewed to help focus SCAR outcomes on the most important priorities and products needed. The work of these groups advances understanding of all aspects of the Antarctic region, may result in seminal publications and feeds into the advice given to the Treaty System and other policy makers. The roles and responsibilities of Science Group leaders are detailed in Appendix 3.

Subsidiary Expert and Action groups are established by the main Science Groups, or in some cases by the Executive Committee, to address specific research topics of interest to the community. Researchers propose new groups when they identify areas where current research is lacking or more coordination is needed. Groups report to their parent Science Group and membership is open to any interested researchers from SCAR member countries. Action Groups address one specific issue and are short-term, usually with a lifetime of between two and four years. Expert Groups have a broader focus and a longer lifetime of around six to eight years, with the option of renewal. Current groups are listed in Appendix 4 with a brief description of their remit. More detailed information is available via the <u>Science section of the website</u>.

In even years, prior to the Delegates' Meeting, SCAR holds a major <u>Open Science Conference</u> to draw attention to Antarctic issues. Business meetings of the three Science Groups are also held, and subsidiary groups often take the opportunity to hold meetings or workshops. In the intervening (odd) years, disciplinary symposia are held – the <u>Humanities and Social Sciences</u> <u>Conferences</u> and, in alternate years, <u>International Symposium on Antarctic Earth Sciences</u> (ISAES) and the <u>Biology Symposium</u>. More information about the various SCAR Meetings is available via the <u>Conferences and Symposia page of the website</u>.

Volunteers

SCAR could not function without its many experienced and enthusiastic volunteers. Apart from the Secretariat, all the work of SCAR is carried out by experts and specialists, from all areas of Antarctic research, who freely give of their time and expertise to achieve SCAR's mission and goals.

Membership of SCAR

The rules governing SCAR membership are laid out in the SCAR <u>Articles of Association</u> and <u>Rules of Procedure</u>. The relevant clauses are summarised here.

Full Members

A Full Member is a <u>national organization adhering to the ISC</u>¹, or an organization nominated by the national organization adhering to the ISC (typically a polar research department or similar), representing the scientific community of that country. The country shall maintain an active and continuing independent programme of research in the Antarctic region and the national organization shall have formed a National Committee to communicate with SCAR. Associate Members may apply for recognition as Full Members when they have established a continuing programme of scientific research in the Antarctic.

Full Members appoint one permanent voting Delegate and one non-voting Alternate Delegate to represent the National Committee. Delegates should preferably be scientists directly involved in Antarctic research. Members in arrears with their membership contributions are not entitled to vote at meetings.

¹ A country that is part of the ISC family is generally connected through its principal scientific academy, or its national research council, or any other institution or association of institutions. For more information on ISC membership, including the main contact organizations relevant for SCAR membership applications, please visit the membership section of the ISC website: <u>https://council.science/members/</u>

Associate Members

An Associate Member is a national organization adhering to the ISC, or an organization nominated by the national organization adhering to the ISC (typically a polar research department or similar), that desires to participate in SCAR for scientific reasons but does not qualify for full membership. Countries with no national organisation adhering to the ISC may become members – please contact the <u>SCAR Secretariat</u> if this is the case.

Associate Members appoint one non-voting Delegate representing the national organization adhering to the ISC or its nominee. The Delegate should preferably be a scientist directly involved in Antarctic research. Delegates of Associate Members may attend all activities at the Meetings of Delegates except sessions for admitting new members. Associate Members are not entitled to vote.

Union Members

ISC Unions wishing to participate in SCAR on a continuing basis may apply for Union Membership. Union Members appoint one permanent voting Delegate, who has the right to vote on all matters except finance.

Benefits of Membership

As a member of SCAR, your scientists will be an integral part of:

- shaping future Antarctic research directions and priorities;
- promoting the importance of scientific research related to Antarctica and the Southern Ocean and the crucial role of this polar region in global environmental change;
- communicating Antarctic and Southern Ocean research to the wider scientific and policy communities;
- stimulating cross-disciplinary collaboration via the SCAR Scientific Research Programmes and specialized subsidiary groups;
- creating major syntheses of Antarctic data and scientific concepts that could not be achieved by one single nation;
- stimulating new ideas and ways of looking at scientific and societally-relevant issues, offering opportunities to learn from each other;
- engaging with SCAR's partner organisations with a polar focus or polar interests to build productive partnerships (visit the <u>Partners section of the website for details</u>);
- encouraging international initiatives such as the <u>Southern Ocean Observing System</u> (SOOS) and <u>Integrating Climate and Ecosystem Dynamics in the Southern Ocean</u> (ICED);
- ensuring visibility and open access to data through the <u>Antarctic Metadata Directory</u>;
- sharing information through various communication channels, including access to online meeting facilities, mailing lists, newsletter, website, etc.;
- promoting the development and implementation of internationally recognized standards and quality control procedures for data collection and analysis;
- generating, improving and using <u>community products</u> such as the Antarctic Digital Database, Antarctic Map Catalogue and Composite Gazetteer of Antarctica;

- presenting their findings in international workshops, disciplinary symposia and the biennial Open Science Conference;
- working together to leverage new research funding;
- providing objective scientific advice to the Antarctic Treaty System, the United Nations Framework Convention on Climate Change (UNFCCC), the Intergovernmental Panel on Climate Change (IPCC) and other bodies;
- bringing emerging scientific issues of regional and global significance to the attention of policy bodies and national programmes;
- promoting your national activities to a variety of international entities.

Being a member of SCAR provides your scientists access to the following:

- seed funding to grow new science collaborations;
- travel funding to various SCAR meetings and activities;
- mentoring to help build an Antarctic research programme;
- international leadership roles;
- Visiting Scholar awards;
- early-career Fellowships;
- international recognition through the SCAR Medals programme;
- career development;
- ... and many opportunities to develop new collaborations and partnerships.

What SCAR expects of its Members

National Contact Points and Group Representatives

On being granted membership of SCAR, the top priority for the member organization is to identify who from their country will be their national contacts, and communicate that information to the SCAR Secretariat (names and full contact details, including email and postal addresses, are essential). Full Members must supply details of three contacts: the National Committee contact, the permanent Delegate and the Alternate Delegate. Associate Members need to supply two contacts: the contact at the member organization and the Delegate. These contacts are critical to the communication between SCAR and the researchers in member countries, so it is important that they understand their responsibility to respond to information requests and to relay information.

Full Members should nominate up to four national representatives to the three main science groups (<u>Geosciences</u>, <u>Life Sciences</u> and <u>Physical Sciences</u>) and to the <u>Standing Committee</u> on <u>Antarctic Data Management (SCADM)</u> and the <u>Standing Committee on Antarctic</u> <u>Geographic Information (SCAGI)</u>. Associate Members are encouraged to do the same.

Members should also encourage their researchers to join the Action and Expert Groups relevant to their work and participate in the Scientific Research Programmes. Current groups are listed in Appendix 4 with a brief description of their remit, and detailed information on all groups is available via the <u>Science section of the website</u>.

Membership Dues

SCAR's income comes mainly from the annual contributions paid by its members. There are three categories for Full Members and one category for Associate Members. Full members select their category according to their own assessment of the scale of their national scientific activity in the Antarctic. Associate Members contribute at a level lower than Full Members.

Membership Contribution Levels (as of 2023)

Full Members

• Special Contributors - \$27,500

At this level, countries demonstrate the importance of the Antarctic region to their national priorities, despite the size of their programme.

• Well-Developed Programmes - \$21,200

At this level, countries acknowledge that they have a multi-disciplinary and productive Antarctic research community. This can include having a base in Antarctica, logistical resources and an established community of scientists working together with the international community.

• Initial-Stage Programmes - \$12,400

At this level, countries are still growing their national programmes and developing resources needed for sustained activities. The goal of this category is to become a well-developed programme over time.

Associate Members - \$7,000

At this level, countries acknowledge their interest in establishing an Antarctic research programme. It is not expected that a large community of national Antarctic researchers exist for all areas of science. The goal for associate members is to move up to Initial-Stage Programmes in 5-6 years.

The contribution levels are decided by the voting members at the Delegates' Meeting, following the recommendation of the Executive Committee. A proposal to increase contribution levels is announced to National Committees at least six months ahead of the Delegates' Meeting where it will be considered. An increase approved at the Delegates' Meeting will be implemented in the January of the following year.

Each January, invoices for contributions are sent to designated national contacts and are due by the end of that calendar year, but ideally by October. New members will receive their first invoices in the January following the SCAR meeting when they are admitted as members. Reminders are sent in October to any members that have yet to pay for the year. Members are classed as "in arrears" if they fail to pay by the January one year following receipt of the invoice.

Newsletter and Reports

The SCAR Secretariat produces a monthly Newsletter with updates on SCAR activities, community news, events and opportunities. Members are encouraged to submit news items of interest to the wider Antarctic community.

While members are no longer required to submit a <u>national annual report</u> to the Secretariat, all members are encourage to send reviews, reports or posters highlighting the achievements of their national programmes. Electronic copies of published reports on national programme activities are welcomed and the report can be in the member's native language, but they are encouraged to include a paragraph or two in English summarising the activities. Updates on

national activities help to build capacity in our new members and encourage international collaboration – two things central to our mission.

Applying for SCAR Membership

How to make a Membership Application

Applications for membership are submitted to the Secretariat and should be made after consultation with the Secretariat. Generally, new countries join as Associate Members and then, after a few years of building their programme, are expected to move to Full Membership, ideally progressing from developing programmes to developed programmes.

The written application need not exceed 1,000 words, but it must address specifically the points detailed and summarised below. Supporting documents may be sent with the application but should not include full literature papers. All applications should be submitted electronically to the Secretariat (by email to <u>info@scar.org</u>). Once received, applications are then sent to Full Members for consideration, and to Associate Members for information.

It is expected that a representative of the organization applying for Full or Associate Membership will attend the relevant SCAR Delegates' Meeting to make a verbal presentation to the Delegates at the beginning of the first day of the meeting. All prospective applicants are reminded that the working language of SCAR is English and that translation and interpretation facilities are not provided.

Principles of Protection of the Antarctic Environment recommended by SCAR

A country that has not acceded to the Protocol on Environmental Protection to the Antarctic Treaty must include in its application a statement agreeing to comply with the Principles of Protection of the Antarctic Environment recommended by SCAR:

SCAR recommends and encourages that, in the absence of the new SCAR Member having acceded to the Protocol on Environmental Protection to the Antarctic Treaty, the Member adheres, to the best of its ability, to the requirements of the Environmental Protocol and its Annexes, and to the ATCM Resolutions and Measures that apply to environmental matters in the region.

The Principle of Freedoms and Responsibilities in Science

A country with no national organisation adhering to the ISC should include in its application a statement agreeing to the ISC's Principle of Freedom and Responsibility in Science:

The free and responsible practice of science is fundamental to scientific advancement and human and environmental well-being. Such practice, in all its aspects, requires freedom of movement, association, expression and communication for scientists, as well as equitable access to data, information, and other resources for research. It requires responsibility at all levels to carry out and communicate scientific work with integrity, respect, fairness, trustworthiness, and transparency, recognizing its benefits and possible harms. In advocating the free and responsible practice of science, the Council promotes equitable opportunities for access to science and its benefits, and opposes discrimination based on such factors as ethnic origin, religion, citizenship, language, political or other opinion, sex, gender identity, sexual orientation, disability, or age.

Associate Membership

When applying for Associate Membership of SCAR, the national organization adhering to the ISC must present a statement in writing of what it hopes to contribute to and/or gain from SCAR membership. If the national ISC representative wishes to nominate another institute/entity to represent its interests in SCAR, a letter from the country's ISC representative stating their preference for another national entity to represent their interest should be submitted with the application. Countries with no national organisation adhering to the ISC should contact the SCAR Secretariat (email info@scar.org).

Full Membership

Associate Members may apply to move to Full Membership when they have established an active programme of Antarctic research. When applying for Full Membership, the national organization adhering to the ISC, or the organization it has nominated, must present a short statement in writing of its achievements in and proposed continuing national programme of scientific research in the Antarctic. Its programme should not be restricted to a single field of scientific activity and it should support SCAR's mission and aims, including exchange and cooperation with other members. The application can include a list of publications in peerreviewed journals and other recognised publications, but not the full journal papers. Applications for Associate Membership are usually expected to precede applications for full membership.

Applications for Associate Membership or to move to Full Membership must be received at least six months before the SCAR Delegates' Meeting at which they will be considered. A decision regarding any application for membership is made by the voting Delegates at the meeting.

Summary of requirements for Membership Applications

- Applications must be submitted through the national organization adhering to the ISC or its nominee.
- Applications must be written and submitted electronically to the Secretariat at least six months before the SCAR meeting at which they are to be considered.
- Applications must include a statement:
 - o for an Associate Member, of what it hopes to contribute and/or gain from SCAR, or
 - for a Full Member, of its achievements in and proposed continuing national programme of scientific research in the Antarctic.
- Countries which have not acceded to the Protocol on Environmental Protection to the Antarctic Treaty must also include a statement agreeing to comply with the Principles of Protection of the Environment recommended by SCAR.
- Countries with no national organisation adhering to the ISC should include a statement agreeing to the ISC's Principle of Freedom and Responsibility in Science.
- It is expected that a representative of the organization applying for membership will attend the relevant SCAR meeting to make a verbal presentation to the Delegates.

Union Membership

When applying for Union Membership, the Union must present a statement regarding the interest of the Union in SCAR's activities, and indicate potential ideas for collaboration.

Termination of Membership

A member can resign by giving at least three months' notice in writing, provided that all contributions due by the member have been paid.

Any Associate Member that is in arrears in its contribution by two years or more may be deemed by the voting Delegates at a SCAR meeting to cease to be a member.

Any Full Member that has not been active in the Antarctic for four years, or has not been active in SCAR for four years, or is in arrears in its contributions by two years, will be given written notice to choose whether it wishes to adhere as an Associate Member or to withdraw from SCAR. The member has the right to respond within three months of the date of notice and its Delegate is entitled to speak at the Delegates' Meeting where the status of its membership will be discussed.

Appendix 1 – SCAR Strategic Plan 2023-2028 Executive Summary

The Scientific Committee on Antarctic Research (SCAR)'s new strategy focuses on the climate crisis and the role of SCAR as the leading scientific organization on Antarctica. Concurrently, SCAR will continue to lead, support, and encourage a broad range of Antarctic and Southern Ocean science and research. SCAR strives to establish its presence as a forward-looking international scientific organization by upholding values common to all members and the wider scientific community, including the principles of equality, diversity, and inclusion (EDI). SCAR also commits to reducing its carbon footprint in all activities and cooperating with its partners to minimize environmental impacts on Antarctica and the Southern Ocean.

SCAR will focus on seven main objectives over the next five years:

- Promote SCAR's leadership in science by strengthening and expanding high-quality collaborative, visionary and societally-relevant research through international partnerships while addressing urgent global priorities including climate change and biodiversity.
- Provide independent scientific advice to the Antarctic Treaty System and other international bodies in response to science and knowledge needs identified by policymakers.
- Encourage and facilitate unrestricted and free access to Antarctic research data and samples in support of all the above objectives.
- Enhance and expand research capacity in SCAR's member countries, recruit new members, and encourage the support of research that addresses the above imperatives.
- Increase public awareness and understanding of Antarctic issues and the essential roles Antarctica and the Southern Ocean play in the Earth's climate systems.
- Ensure equality, diversity, and inclusion (EDI) principles to all of SCAR activities and actions, including SCAR management, structure, and realization of its missions and vision.
- Reduce the carbon footprint of all SCAR activities.

To achieve these objectives, SCAR will adopt a multifaceted strategy to ensure that research is effectively facilitated and globally supported, and its outcomes are efficiently communicated to society and decision- makers. The social sciences and humanities are an integral part of these objectives.

In the more than 60 years of its existence, SCAR has developed into an international organization of high standing, both in the scientific community and the ATS. The rising importance of polar research has made it more important than ever that SCAR strategically responds with excellent scientific knowledge to emerging questions posed by global changes and societal demands.

SCAR's vision is to create a lasting legacy for Antarctic science and knowledge to provide a more sustainable future for our planet. SCAR strives to establish a more complete and detailed understanding of the most critical elements of Antarctic and Southern Ocean physical, chemical and biological systems, and how they are interconnected. Facilitating international cooperation, coordination, and partnerships is essential to achieving this vision.

The full 2023-2028 Strategic Plan can be downloaded from:

https://www.scar.org/strategic-plans/5912-scar-strategic-plan-2023-2028/

Appendix 2 – Roles and Responsibilities of SCAR Directors

General Background

The SCAR President and Vice Presidents (SCAR Directors) are vital to the operation of SCAR. As with all SCAR Delegates and Alternate Delegates, the Directors are expected to be recognised, active researchers in a given area of Antarctic research endeavour.

The Directors are responsible for executing decisions made by the SCAR Delegates and for providing strategic oversight of SCAR's operations on behalf of the Delegates. The Directors also have the ability to take decisions on behalf of the Delegates which are binding on the organisation.

In addition, the President and Vice Presidents each have important responsibilities pertaining to their individual roles (as outlined below, and illustrated in the latest <u>SCAR organisation</u> <u>chart</u>). The President and Vice President roles are voluntary (unpaid) positions, yet they require a significant time commitment from those who hold these offices.

The SCAR President and Vice Presidents, along with the SCAR Executive Director, form the <u>SCAR Executive Committee</u>, which meets regularly during the year to discuss key SCAR business. The Executive Director is head of the <u>SCAR Secretariat</u>, which manages the day-to-day operations of SCAR.

SCAR is a charity under UK law and also a Limited Company. The President and Vice Presidents (VPs) are Trustees of the charity and together they form the Board of Directors of the Company. They have legal responsibilities under UK law. In addition, they are able to make decisions on behalf of the SCAR Delegates that are binding on the organisation. Information on legal responsibilities is provided below, and further detail is available in SCAR's Articles of Association.

The President and Vice-Presidents are expected to interact regularly with the Executive Director and Secretariat staff and to deal with them in keeping with UK workplace legislation and best practice.

Key to success in these roles is appropriate time allocation, not just for the specifics of the roles, but also, crucially, for communication with SCAR's members, scientists, partners and, importantly, the Executive Director and Secretariat staff.

Election

The President and four Vice Presidents are the Delegates / Alternate Delegates of five different Full Member countries, elected at the biennial SCAR Delegates' Meeting from among those present at the meeting, in accordance with SCAR's <u>Rules of Procedure</u>. The term of office is typically four years (i.e. across two consecutive Delegates' Meetings), with the possibility of being re-elected for a second term. Only half of the Directors are elected at any given meeting – two Vice Presidents will be mid-term and two will be finishing their terms. When a new President is elected, the former President remains on the Executive for two years to provide continuity and support for the new team. That position does not require the occupant to be a Delegate or Alternate Delegate.

Meeting attendance and time commitment

Under normal circumstances, every two years the SCAR Directors attend the SCAR Delegates' Meeting, usually in conjunction with the Open Science Conference (e.g. in 2016, 2018). An amendment to the SCAR Articles of Association in 2021 enabled virtual attendance

at meetings². In the intervening years, a smaller Executive Committee Meeting is held, comprising the Executive Committee members (Directors and Executive Director) along with Science Group, Scientific Research Programme and Standing Committee Chief Officers. These meetings take place over several days. Minutes of Delegates and Executive Committee meetings can be found on SCAR's website, alongside the papers for the meeting.

Regular online meetings of the SCAR Executive Committee take place approximately every six weeks and last about 2 hours. SCAR Directors are expected to be available for all of these meetings.

SCAR President

The SCAR President provides leadership for and visibility of SCAR.

The SCAR President is expected to act in the best interests of SCAR at all times, and especially considering the SCAR emphasis on promoting all of the disciplines under its banner, delivering excellent, evidence-based science advice, and facilitating capacity building among its Members.

The role has an inward leadership component, ensuring that the organisation functions to deliver what has been agreed by the Members, and that this work is integrated, timely and in keeping with the SCAR Strategic Plan. A key component of this internal work is regular liaison with the Executive Director and SCAR Secretariat, as well as with the SCAR Vice-Presidents and the SCAR Subsidiary Group Chief Officers.

The SCAR President has an outward-facing leadership role, representing SCAR in international forums, and in particular as SCAR's Head of Delegation to the Antarctic Treaty Consultative Meetings. Other key interactive roles include with SCAR's parent organisation – the International Science Council (ISC) – and with CCAMLR, COMNAP, IAATO, ASOC, WMO and other agencies / bodies of the United Nations. The SCAR President is directly responsible for the evidence-based advice portfolio within SCAR, assisted by the SCAR Executive Director.

In this outward-facing role with Antarctic Treaty System organisations, a close working relationship has to be maintained with the Chief Officer of SCAR's Standing Committee on the Antarctic Treaty System. The SC-ATS CO is SCAR's representative to the Committee for Environmental Protection. The President, SC-ATS CO and Executive Director, are the SCAR Treaty Delegation. Much work is required to prepare Treaty papers, usually requiring at least 6 months lead-in time annually.

In addition to these roles, the SCAR President assumes responsibility for the delivery of SCAR's work and the efficient functioning of the organisation. The latter includes final responsibility for Secretariat staff (including replacement procedures where required), good business practice, and appropriate fiduciary care, all in keeping with UK Law and best practice. In this respect, the President is also responsible for arranging and giving effect to the annual performance discussion with the Executive Director.

From a workplace practice perspective, if the Executive Director or Secretariat staff raise a formal complaint, the complaint first goes to the President and Vice-President for Administration, except if either of those roles are the subject of the complaint, in which case the complaint should be to an alternative Director or Directors. Those with whom the complaint is lodged are obliged by UK Law to deal with it and may take advice from SCAR's HR consultants and/or solicitors.

² The 2020 SCAR Delegates Meeting was cancelled due to the global pandemic, and an online meeting took place in March 2021. The SCAR Delegates Meeting in September 2022 was held as a hybrid meeting, with attendance possible in person in Goa, India or online.

The SCAR President also has the responsibility for seeking opportunities to improve financial support for SCAR and opportunities to promote both the organisation and those who undertake Antarctic and Southern Ocean research.

In terms of time, the President's role requires, at the very minimum, a 20% commitment (amounting to a day a week on average). Although this is the minimum requirement, the time required for an effective contribution is much closer to 40%. Moreover, long stretches at a time require close to 100% commitment. In particular for the annual Antarctic Treaty Consultative Meeting (about 14 continuous days a year, excluding preparation time), for the biennial SCAR Open Science Conference and Delegates Meeting (14 continuous days, excluding preparation time), for the biennial SCAR Executive Committee Meeting (7 continuous days excluding preparation time), and for other meetings. These include, in typical years, work with member countries to promote SCAR and/or to participate in particular meetings.

Considerable travel (or e-meeting participation) can be expected. The SCAR President should visit the Secretariat in person at least annually. This can be combined with other SCAR business for most efficiency. In addition, at least four other international trips or participation events can be expected annually (Treaty meeting, SCAR ExCom or Delegates meeting, and two other meetings).

Although not a pre-requisite, if the SCAR President's role is being undertaken alongside an institutionally-demanding one, having a part time Administrative Assistant is exceptionally useful. The SCAR Secretariat staff is not in a position to provide this assistance given their considerable commitments to other organisational requirements.

SCAR Vice Presidents

The SCAR Vice-Presidents are expected to act in the best interests of SCAR at all times, and especially considering the SCAR emphasis on promoting all of the disciplines under its banner, delivering excellent, evidence-based science advice, and facilitating capacity building among its Members.

Each Vice President (VP) takes on a particular area of responsibility, with these being decided in discussion among the Directors when a new President or new Vice-Presidents are elected.

The Vice-Presidential roles require about a 10-20% time commitment, but the workload varies among these roles on an annual cycle. The best outcomes are achieved by regular attention to the commitments of the role. SCAR Open Science Conference and Delegates Meeting years are especially busy. Vice-Presidents are expected to be present at these meetings for their full duration and at SCAR ExCom meetings in alternate years. In addition, SCAR Vice-Presidents can expect to attend in their formal roles one other meeting annually at the least. Usually these are meetings either in the scientific area of specialisation of the Vice-President, or in a given region that is close by for travel.

The SCAR Vice-Presidents are instrumental in providing leadership in their areas, ensuring that SCAR's work is undertaken in keeping with the Members' wishes, in keeping with the Strategic Plan, and in an integrated and forward-looking manner.

Vice President for Administration

The VP for Administration has oversight of all SCAR administrative practices, and a strategic focus on regular consideration of the efficacy of SCAR's structural arrangements.

For the SCAR Secretariat, the VP for Administration works with the Executive Director and President to ensure that the Secretariat staff, including the Executive Director, are employed under contemporary workplace expectations and arrangements, with the delivery of good HR and workplace practice and appropriate development opportunities.

For the organisation as a whole, the VP for Administration is responsible for ensuring that administrative practice is in keeping with SCAR's governing documents and policies, and, where needs be, makes recommendations to the ExCom and to the Delegates for changes to these so they remain in keeping with the members' wishes for the organisation, UK Law and contemporary administrative practice for NGOs in particular.

Where any changes to SCAR's policies and procedures are required, the VP for Administration takes carriage of the process on behalf of the Directors, working with the Executive Director, and where necessary, SCAR's solicitors, to give effect to revisions for consideration by the Members at a Delegates Meeting, in keeping with SCAR's rules and policies.

The VP for Administration has oversight of SCAR subsidiary groups not taken care of by other Directors, and is expected to be in regular communication with them.

At the SCAR Delegates Meeting, the VP for Administration leads and/or chairs all sessions to do with SCAR's administration, other than elections (led by the Executive Director), finances (VP for Finance) and membership matters (President), and all sessions where subsidiary groups under the VP for Administration's oversight are reporting back.

Vice President for Capacity Building

The VP for Capacity Building is responsible for developing SCAR's strategic vision for capacity building and equity, for implementation of this vision, and for seeking opportunities to extend support for these activities. These opportunities include interactions with Members' programmes and others such as those under the banner of the ISC, organisations which are part of the ISC, or those that are associated with the Antarctic Treaty System.

The VP for Capacity Building chairs the Capacity Building, Education and Training Group (CBET) of SCAR, and sets its membership in discussion with the SCAR subsidiary group Chief Officers and ExCom. CBET is responsible for advising on all aspects of SCAR capacity building. Close collaboration with the Executive Director is a key requirement for this role.

A key role for the VP for Capacity Building is overseeing the SCAR Awards and Fellowships Programmes so that they run efficiently, take the varied membership of SCAR into account, focus on capacity building where appropriate, and are equitable. In this role, the VP for Capacity Building works closely with the SCAR Executive Officer and Executive Director.

During Delegates Meetings, the VP for Capacity Building leads all discussions of capacity building and equity.

Vice President for Finance

The VP for Finance works with the Executive Director, Secretariat and subsidiary group Chief Officers to develop the budgets for SCAR for Members' approval, and develops annual budget statements with the assistance of the Secretariat for reporting and auditing purposes. The VP for Finance also monitors and advises the Directors and Delegates on SCAR's investments and on the financial strategy SCAR should adopt to best support its agreed activities and deliver against its Strategic Plan.

The VP for Finance works in association with the SCAR Executive Director and Executive Officer to ensure that cash flow over the course of the year is in keeping with expectations, and reports back to the ExCom about these matters. All non-routine expenditure or changes to expenditure plans must first be cleared with the VP for Finance, who may pass decisions on to ExCom on a discretionary basis.

During Delegates Meetings, the VP for Finance chairs the Standing Committee on Finance and is responsible for ensuring it has appropriate membership from SCAR's Delegates and Alternate Delegates. The VP for Finance also delivers the budgets and reporting against them to the SCAR Delegates, leading all financial discussions. The VP for Finance has specific fiduciary responsibilities under UK Law and with regard to SCAR's accounts.

Vice President for Science

The VP for Science oversees the science facilitation component of SCAR. Thus, close and ongoing coordination with the Scientific Research Programme (SRP) Chief Officers and Science Group (SG) Chief Officers, along with the Chief Officers of the Standing Committee on the Humanities and Social Sciences (SC-HASS), is required. When new SRPs are being proposed, the VP for Science is instrumental in guiding the Programme Planning Groups to ensure that their work is delivered in an efficient and timely way and in keeping with SCAR's practices. SRP Proposal review is handled by the VP for Sciences, who then makes recommendations to the Directors and Delegates on the outcomes.

During Delegates Meetings, the VP for Science chairs the science reporting parts of the meeting.

The VP for Science plays a crucial role in the content of the SCAR Open Science Conferences, being a standing member of the International Science Organising Committee. That role is not typically Chair of the Committee, but rather advisory to ensure that the conference develops in a way in keeping with the aims of the Open Science Conferences and reflects the preferences of the community in the context of the SCAR Strategic Plan. Often the VP for Science or the SCAR President will also be a member of the Local Organising Committee for the meeting.

The SCAR VP for Science also has a key role in representing SCAR science in an international setting.

Legal Responsibilities of Trustees

The President and Vice Presidents have legal responsibilities under UK Law as Directors of the Company and Trustees of the charity.

The following UK Government website sets out the responsibilities of Company Directors: <u>https://www.gov.uk/guidance/being-a-company-director</u>

The UK Charity Commission summarises "Trustees duties at a glance" as follows, with full details available via this link

- Ensure your charity is carrying out its purposes for the public benefit
- <u>Comply with your charity's governing document and the law</u>
- Act in your charity's best interests
- Manage your charity's resources responsibly
- Act with reasonable care and skill
- Ensure your charity is accountable

Reporting

The President and Vice Presidents must ensure that SCAR complies with legal reporting requirements.

SCAR reports to UK Companies House each year. It submits a Trustees Report along with its annual audited accounts. The Trustees Report contains details of SCAR activities and plans. Most submissions are public and available through: https://www.gov.uk/government/organisations/companies-house

SCAR also reports to the UK Charity Commission each year following the preparation of the annual accounts. The main website can be accessed at: https://www.gov.uk/government/organisations/charity-commission

Appendix 3 – Roles and Responsibilities of SCAR Science Groups

General Background

Science Groups were created during the re-organization of SCAR in the early 2000s to simplify the large numbers of Working Groups and to encourage scientific disciplines to interact synergistically by building partnerships and collaborations. It was recognized that past disciplinary boundaries were a barrier to the growing inter- and cross-disciplinary nature of high priority scientific questions that were emerging. At that time, three (3) groups were created: Geosciences, Life Sciences and Physical Sciences. To encourage broad participation, SCAR members were asked to appoint four (4) national representatives per Science Group. The cost of participation and attendance in Science Groups is borne by each member nation. The groups are led by a Chief Officer, a Deputy Chief Officer and a Secretary, elected by the group membership every four (4) years.

Responsibilities of Science Group Leaders

As the meeting space for the SCAR science community, Science Groups are tasked with formulating and managing activities to produce outcomes that support the dual missions of SCAR of international scientific coordination and provision of authoritative, science-based advice to decision-makers. Responsibilities, overseen and organized by the Chief Officers and Secretary, include:

1. Member Meetings

In the even-numbered years, an in-person Science Group business meeting is traditionally convened at the time of the biennial Open Science Conference, just prior to the SCAR Delegates Meeting. It is recommended that a virtual meeting be convened in the alternate years, so the groups meet annually at a minimum. The Chief Officers develop an agenda for these meeting and chair the meetings, directing discussion and ensuring that decisions are made and implemented. The outcomes of the business meetings are reported to the Delegates.

2. Group Budgets

Chief Officers are tasked with managing the Group's budget as allocated by the Delegates. This includes formulating and recommending group budget requests to the Standing Committee on Finance. The budget cycle is two years.

3. Action and Expert Groups

Action and Expert Groups are the vehicles for the Science Groups (SGs) to accomplish their work. SGs are tasked with creating and overseeing Action and Expert Groups:

- a. Action Groups (AGs) are convened to address short-term needs that arise. The duration of an Action Group is to be two but not more than four years and groups are to be disbanded when the stated need is addressed. AG membership is to be based on the expertise needed to address the question at hand and ensure geographic and gender diversity. AGs report annually to the SG.
- b. Expert Groups (EGs) are convened to address longer-term needs that arise. The duration of an Expert Group will normally not exceed 6 years and groups are to be disbanded when the stated need is addressed. EG membership is to be based on the expertise needed to address the question at hand and ensure geographic and gender diversity. EGs report annually to the SG.

4. Convening of Symposia

Science Groups are tasked with convening quadrennial Scientific Symposia (i.e., the Biology Symposium and Earth Sciences Symposium (ISAES)). The SG is to widely advertise the opportunity to host Symposia, solicit proposals for organizing Symposia, review proposals to host (including budgets and proposed sources of funds), and select the host. Once awarded, the SG is responsible for overseeing the successful staging of the Symposium, working closely with the host and the organizing committee. The SG is to also to carry out a "lessons learned" analysis and report post-Symposium to assist in improving future meetings.

5. Scientific Advice

SCAR's scientific-advice activities are coordinated by the Standing Committee on the Antarctic Treaty System (SCATS). While SCATS membership often includes the expertise necessary to address requests for scientific advice to decision- and policy-makers, additional expertise is sometimes needed. In these instances, the SCATS Chief Officer will initiate a request to the most pertinent Science Group for assistance. These requests may include assistance in identification of an expert to add as an ad-hoc member of SCATS, assistance in identifying nominees to serve on SCATS, and/or a request for the SG to form an Action Group to address a specific need. If the need is ongoing, an Expert Group may be formed.

6. Programme Planning Groups

SCAR's flagship science programmes are formulated as Scientific Research Programmes (SRPs). SRPs have a duration of six (6) years and are cyclically ended and new ones approved. The Science Groups are expected to encourage and nurture the development of proposals for SRPs within their communities by forming exploratory Programme Planning Groups (PPGs). PPGs are tasked with formulating the scientific basis for potential SRPs; identifying and recruiting potential SRP members; and developing full proposals for new SRPs for consideration by the Delegates. Often PPGs come together from the work of Action and Expert Groups and are seen as a path to a more coordinated and focused group to address the highest priority and most complex scientific questions.

7. Convening Workshops and Thematic Meetings

On occasion, there is a need to assemble a temporary group of experts to move an issue or theme forward. For example, these might take the form of an assessment of the "state of the science" of a particular issue. These one-time meetings/workshops are often useful to assess the status of progress towards stated scientific goals/outcomes and can be useful for formulating specific actions by the Science Group, such as the need for AGs, EGs, and/or PPGs.

8. Communications and Membership

Science Groups are to develop a communications plan that includes both internal and external communications strategies. This communications plan should be coordinated with and advised by the SCAR Secretariat Communications and Information Officer and the SCAR Communications Plan. SG leadership is to regularly provide news items and announcements to the Secretariat for the Newsletter and the website. The SG should have a plan to communicate regularly to its members and encourage SCAR members to nominate representatives to the SG.

9. Inclusion and Diversity

In all activities and actions, Science Groups are to encourage inclusion and diversity, both geographic and gender. SG activities are to include opportunities for early-career researchers and under-represented groups. Representatives from more mature Antarctic programmes are to mentor developing- or nascent-programme representatives and make efforts to include less-resourced national programmes in their activities. Chief Officers should regularly take a census of membership and approach those SCAR members that have not named representatives to the SG and encourage them to do so.

10. Representatives to other SCAR activities

A range of SCAR activities often relies on the participation of members drawn from various subsidiary groups. For example, some members on SCATS are designated as representatives from other SCAR groups. This increases cross-organization communication and coordination. The SG is responsible for identifying and nominating these representatives. Representatives are responsible for reporting to the SGs on their activities.

Appendix 4 – SCAR Groups and Scientific Research Programmes

Full details of the rules governing SCAR groups are available in the <u>Rules of Procedure for</u> <u>Subsidiary Bodies</u>.

Disciplinary Science Groups (SGs)

These are permanent bodies representing the main Antarctic scientific disciplines that assist in the implementation of SCAR's mission and objectives:

- Geosciences (<u>https://www.scar.org/science/gsg/about/</u>)
- Life Sciences (<u>https://www.scar.org/science/lsg/about/</u>)
- Physical Sciences (<u>https://www.scar.org/science/psg/about/</u>)

Members nominate up to four representatives to each group. At the biennial business meetings (held in conjunction with the Open Science Conference and SCAR Delegates' Meeting), the national representatives elect a Chief Officer, Deputy Chief Officer and Secretary from among them who must be from three different members. Officers are elected for a four-year term, renewable for up to four more years. Each Union Member may also send one representative to the relevant Science Group meeting.

Science Groups take a strategic view of research requirements, share information on disciplinary research being conducted by national programmes and coordinate proposals for future research. They identify research areas or fields that might best be investigated by a Scientific Research Programme and establish Action and Expert Groups to address specific topics.

Scientific Research Programmes (SRPs)

Scientific Research Programmes are established by the three permanent Science Groups to focus efforts on high priority topical areas. They are large, overarching programmes in scope, are often multi-disciplinary and have a lifetime of around eight years. There are currently three SRPs:

- Near-term Variability and Prediction of the Antarctic Climate System (AntClim^{now}) <u>https://www.scar.org/science/antclimnow/home/</u> AntClim^{now} will investigate the prediction of near-term conditions in the Antarctic climate system on timescales of years to multiple decades. They will take an integrated approach, looking beyond climate projections of the physical system to consider the Antarctic environment as a whole.
- Integrated Science to Inform Antarctic and Southern Ocean Conservation (Ant-ICON)

https://www.scar.org/science/ant-icon/home/

The Ant-ICON SRP will answer fundamental science questions (as identified by the SCAR Horizon Scan), relating to the conservation and management of Antarctica and the Southern Ocean and focus on research to drive and inform international decision-making and policy change.

 INStabilities and Thresholds in ANTarctica (INSTANT) <u>https://www.scar.org/science/instant/home/</u> The INSTANT SRP will address a first-order question about Antarctica's contribution to sea level. It encompasses geoscience, physical sciences and biological sciences of the

sea level. It encompasses geoscience, physical sciences and biological sciences, of the way in which interactions between the ocean, atmosphere and cryosphere have influenced ice-sheets in the past, and what expectations will be in the future with a special

focus on quantifying the contributions to global sea level change. They aim to quantify the Antarctic ice sheet's contribution to past and future global sea-level change.

Programme Planning Groups (PPGs)

Programme Planning Groups (PPGs) are the means by which Scientific Research Programmes (SRPs) are developed and proposed through wide consultation with the community. A PPG was approved at the 2022 Delegates, Meeting:

 Antarctic Geospace and ATmosphere reseArch (AGATA) <u>https://www.scar.org/science/agata/home/</u> The AGATA PPG is a coordinated, worldwide effort to monitor, investigate and better understand the physics of the polar atmosphere and the impact of the Sun-Earth interactions on the polar regions.

Action Groups (AGs) and Expert Groups (EGs)

Action and Expert Groups are established by the permanent Science Groups and the Standing Committee on the Humanities and Social Sciences (SC-HASS), either individually or jointly, to address specific topics of interest to SCAR. The proposals for new groups come from the science community at large and are typically grassroots efforts. Membership is open to any interested researcher from a SCAR member country or Union. New Action and Expert Groups may also be established by the Delegates (at a Delegates' Meeting) for non-scientific purposes or for research areas outside the three permanent Science Groups.

• Astronomy and Astrophysics from Antarctica – AAA (EG directly under the Executive Committee)

https://www.scar.org/science/aaa/home/

This former SRP aims to coordinate astronomical activities in Antarctica in a way that ensures the best possible outcomes from international investment in Antarctic astronomy, and maximizes the opportunities for productive interaction with other disciplines.

- Antarctic Clouds and Aerosols ACA (Physical Sciences AG) <u>https://www.scar.org/science/aca/home/</u> Aims to organise an international large scale campaign to investigate clouds and aerosols in Antarctica through a series of special observing periods when intensive ground-based measurements would be made at the same time as in-situ measurements using instrumented aircraft.
- Antarctic Digital Magnetic Anomaly Map Project ADMAP (Geosciences EG) <u>https://www.scar.org/science/admap/home/</u> Aims to compile and integrate all existing Antarctic near-surface and satellite magnetic anomaly data into a digital database.
- Action Group on Intrinsic Value in Antarctica AGIVA (SC-HASS AG) <u>https://www.scar.org/science/agiva/home/</u> Seeks to develop a broad cross-cultural understanding of the intrinsic value of Antarctica in order that the intention of the Madrid Protocol to provide protection to this value can be better understood.
- ANtarctic Gravity Wave Instrument Network ANGWIN (Physical Sciences AG) <u>https://www.scar.org/science/angwin/home/</u> Aims to develop a network of Antarctic gravity wave observatories, operated by different nations, in order to address scientific processes on a polar scale.
- Antarctic Tourism Action Group Ant-TAG (SC-HASS AG)
 <u>https://www.scar.org/science/ant-tag/home/</u>
 Aims to harness the range of expertise in SC-HASS and related Standing Committees on

tourism topics, serving as a platform for researchers from different disciplinary perspectives to work together collaboratively and make evidence-based recommendations.

- AntArchitecture (joint Geosciences and Physical Sciences AG) <u>https://www.scar.org/science/antarchitecture/home/</u> Aims to develop a continent-wide, age-depth model of Antarctica's ice using the internal layers and surfaces imaged by radar-sounding. The product underpins a wider goal to determine the stability of the Antarctic Ice Sheets over past glacial cycles.
- Antarctic Near-shore and Terrestrial Observing System ANTOS (joint Life Sciences, Physical Sciences and Geosciences EG) <u>https://www.scar.org/science/antos/home/</u> Aims to establish a biologically-focused, integrated and coordinated Antarctic-wide observation system, to identify and track environmental variability and change at

observation system, to identify and track environmental variability and change at biologically relevant scales, and to use this information to inform biological, physical, and earth science studies.

 Antarctic Permafrost, Soils and Periglacial Environments – ANTPAS (Geosciences EG) <u>https://www.scar.org/science/antpas/home/</u>

Aims to develop an internationally coordinated, web-accessible database and monitoring system on Antarctic permafrost and soils.

- Antarctic Volcanism AntVolc (Geosciences EG) <u>https://www.scar.org/science/antvolc/home/</u> Aims to promote the study of Antarctic volcanism, facilitate regional correlations and work towards establishing Antarctica as a high-profile site for studying volcanic processes, especially but not solely petrology and glaciovolcanism.
- Antarctic Sea-ice Processes and Climate ASPeCt (Physical Sciences EG) <u>https://www.scar.org/science/aspect/home/</u> Aims at improving our understanding of the Antarctic sea ice zone through focused and ongoing field programmes, remote sensing and numerical modelling.
- **BEDMAP3 topographical model of Antarctica** (AG directly under the Executive Committee)

https://www.scar.org/science/bedmap3/home/

A collaborative community project which aims to produce a new map and datasets of Antarctic ice thickness and bed topography for the international glaciology and geophysical community, using a variety of data (including ice-thickness, bathymetry, surface altitude and grounding lines).

• Biogeochemical Exchange Processes at the Sea-Ice Interfaces – BEPSII (Life Sciences EG)

https://www.scar.org/science/bepsii/home/

Aims to support and further develop an international community on sea-ice biogeochemistry, to stimulate the interaction between experimentalists and modellers working on this topic, and to help the community articulate research priorities and identify optimized and cost-effective approaches and research platforms in internationally resource-limited times.

 Connecting Geophysics with Geology – CGG (Geosciences AG) https://www.scar.org/science/cgg/home/ Aims to identify highest-priority areas where lineaments and/or apparent

Aims to identify highest-priority areas where lineaments and/or apparent tectonic block boundaries intersect with outcrops, provide improved geological maps, improve connections to adjacent continents within Gondwana/Rodinia and project the knowledge of these into Antarctica, and identify worthy drill sites for basement recovery and connect to other Antarctic drilling communities.

• Equality, Diversity and Inclusion Action Group – EDI (AG directly under the Executive Committee)

https://www.scar.org/capacity-building/edi/home/

Tasked with broadly looking at how EDI issues can be effectively dealt with within SCAR, and what practical actions are relevant for the organisation.

- Expert Group on Antarctic Biodiversity Informatics EG-ABI (Life Sciences EG) <u>https://www.scar.org/science/egabi/home/</u> Aims to foster the application and development of biodiversity informatics (computationally-driven biodiversity science and information processing) in the SCAR community. It does this by coordinating and participating in a range of projects across the SCAR biodiversity science portfolio.
- Expert Group on Birds and Marine Mammals EG-BAMM (Life Sciences EG)
 https://www.scar.org/science/eg-bamm/home/

Tasked with providing expert knowledge and research leadership in all matters related to birds and mammals in the Antarctic, in order to support research that will quantify the role of birds and marine mammals in the Antarctic marine and terrestrial ecosystems.

 Geological Heritage and Geo-conservation – EG-GEOCON (Geosciences AG) <u>https://www.scar.org/science/geoconservation/home/</u> Aims to advance the identification of Antarctic geological sites of exceptional value to be

Aims to advance the identification of Antarctic geological sites of exceptional value to be designated geological heritage of international relevance, and to contribute to SCAR advice to the CEP and the ATCM on matters related to conservation of geological heritage.

Earth Observation Action Group – EOAG (Physical Sciences AG)
 https://www.scar.org/science/eoag/home/

Aims to be an advocate for the acquisition of all types of satellite data over the Antarctic and Southern Ocean region from multiple space agencies, recommending the type of satellite observations needed to measure Essential Climate Variables (ECV's) relevant to the Polar regions, and recommending how best to preserve the long term continuity of satellite Earth Observation data records. It incorporates the former Action Group on Remote Sensing to monitor bird and animal populations.

- Forum for Research into Ice Shelf Processes FRISP (Physical Sciences EG) <u>https://www.scar.org/science/frisp/home/</u> Aims to coordinate the community engaged in research on the glaciological, oceanic and atmospheric processes governing the behaviour of ice shelves that are key to the ice sheet contribution to sea level change.
- Geodetic Infrastructure of Antarctica GIANT (Geosciences EG) <u>https://www.scar.org/science/giant/home/</u> Aims to oversee the development of geodetic infrastructure across the Antarctic Continent to facilitate the monitoring of its physical processes and help coordinate various infrastructure associated with earth monitoring techniques such as the Global Navigation Satellite System (GNSS), gravity meters as well as the installation of tide gauges to monitor sea level change.
- International Bathymetric Chart of the Southern Ocean IBCSO (Geosciences EG)
 https://www.scar.org/science/ibcso/home/

Aims to design and implement an enhanced digital database that contains bathymetric data available south of 60°S latitude, leading to the design of a consistent bathymetric chart of the Southern Ocean.

International Collaboration Effort for Improving Paleoclimate Research in the • Southern Ocean – ICEPRO (Geosciences AG)

https://www.scar.org/science/icepro/home/ Aims to improve our understanding of past ocean-ice-earth interactions by linking modern observations and paleo-records by facilitating transnational collaborations on (paleo)environmental studies in the Southern Ocean.

Input Pathways of persistent organic pollutants to AntarCTica – ImPACT (joint Life • Sciences and Physical Sciences AG) https://www.scar.org/science/impact/home/ Aims to facilitate coordinated investigation and monitoring of chemical input to the

Antarctic region, drawing together the Antarctic POP (persistent organic pollutants) research community in order to devise a long-term coordination body, and underpinning funding strategy. for realising the group's goals.

International Partnership in Ice Core Sciences - IPICS (Physical Sciences EG, • supported by SCAR, PAGES³ and IACS⁴) https://www.scar.org/science/ipics/home/

Aims to coordinate international collaboration between ice core scientists, engineers, and drillers to aid in providing information about past climate and environmental conditions on timescales from decades to hundreds of millennia.

Ice Sheet Mass Balance and Sea Level - ISMASS (Physical Sciences EG, joint group • with IASC⁵ and CliC⁶)

https://www.scar.org/science/ismass/home/

Aims to promote research on the estimation of the mass balance of ice sheets and its contribution to sea level, facilitate coordination among the different international efforts focused in this field, propose directions for future research, integrate the observations and modelling efforts, as well as the distribution and archiving of the corresponding data, and contribute to the diffusion, to society and policy makers, of the current scientific knowledge and the main achievements in this field of science.

Joint Expert Group on Human Biology and Medicine - JEGHBM (Life Sciences EG, ioint aroup with COMNAP⁷)

https://www.scar.org/science/jeghbm/home/

Aims to coordinate knowledge and international experience of physicians, psychologists, human physiologists and biologists who are actively engaged in medical support of Antarctic activity, as well as biomedical research in the Antarctic. This effort includes active linkages and integration to work in human biology and medicine in the Arctic, space missions, and other extreme, remote and austere environments.

Operational Meteorology in the Antarctic – OpMet (Physical Sciences EG) • https://www.scar.org/science/opmet/home/

Aims to establish and nurture links between groups working in the area of operational meteorology in Antarctica, such as the Antarctic Meteorological Observation, Modelling, and Forecasting Workshop Group, and the WMO EC-PHORS (Panel of Experts on Polar and High Mountain Observations, Research and Services), helping to facilitate monitoring of the meteorological observations that come from Antarctica.

³ PAGES – Past Global Changes project of Future Earth (http://pastglobalchanges.org/)

⁴ IACS – International Association of Cryospheric Sciences (https://cryosphericsciences.org/)

⁵ IASC – International Arctic Science Committee (<u>https://iasc.info/</u>)

⁶ CliC – Climate and Cryosphere project of the World Climate Research Programme (WCRP) (https://www.climate-cryosphere.org/)

⁷ COMNAP – Council of Managers of National Antarctic Programs (https://www.comnap.ag/)

- Public Engagement with Antarctic Research PEAR (SC-HASS AG)
 <u>https://www.scar.org/science/pear/home/</u>
 Aims to foster the academic study of public engagement with Antarctica, Antarctic science
 and Antarctic research more broadly.
- Plastic in Polar Environments Plastic-AG (Life Sciences AG) <u>https://www.scar.org/science/plastic/home/</u> Aims to examine the presence, origin and biological effects of macro-, micro- and nanoplastics, quantify the scale of the problem, and propose solutions for minimising the environmental risk and impacts on Polar ecosystems.
- Policy-Law-Science Nexus Action Group PoLSciNex (SC-HASS AG) https://www.scar.org/science/polscinex/home/

 Aims to analyze the policy-law-science nexus within the current Antarctic governance framework and to articulate the practical significance of understanding such a nexus, so as to inform stakeholders how science-based decision making relevant to Antarctica is actually operationalized.
- Paleoclimate Records from the Antarctic Margin and Southern Ocean PRAMSO (Physical Sciences AG)

https://www.scar.org/science/pramso/home/

Aims to provide a forum to initiate, promote and coordinate scientific research drilling around the Antarctic margin and the Southern Ocean to obtain past records of ice sheet dynamics and ice sheet ocean interactions that are critical for improving the accuracy and precision of predictions of future changes in global and regional temperatures and sea level rise.

- RINGS Action Group (joint Physical Sciences and Geosciences AG) https://www.scar.org/science/rings/home/

 Aims to clarify the current knowledge gaps at the ice-sheet margin and assess the impacts of new data filling these knowledge gaps, and develop a set of protocols to systematically collect, analyze, and share comprehensive airborne geophysical data.
- SCAR Krill Expert Group SKEG (Life Sciences EG) <u>https://www.scar.org/science/skeg/home/</u> Aims to guide research directions, promote collaboration, improve understanding of krill biology and ecology, provide a forum for information exchange and become the prime conduit between CCAMLR⁸ and the wider krill science community.
- Southern Ocean Continuous Plankton Recorder Database SO-CPR (Life Sciences EG) <u>https://www.scar.org/science/cpr/home/</u> Established to assist the development and expansion of the continuous plankton recorder (CPR) research in the Southern Ocean and Antarctic waters, the group now focuses on

(CPR) research in the Southern Ocean and Antarctic waters, the group now focuses on the Quality Assurance and Quality Control (QA/QC) of the data and maintaining the highest methodological standards in CPR sampling and taxonomic methodology across the SO-CPR Survey laboratories.

 Southern Ocean Region Panel – SORP (CLIVAR⁹/CliC/SCAR – Physical Sciences EG) <u>https://www.scar.org/science/sorp/home/</u> Aims to coordinate the discussion and communication of scientific advances in the

⁸ CCAMLR – Commission for the Conservation of Antarctic Marine Living Resources (<u>https://www.ccamlr.org/</u>)

⁹ CLIVAR – Climate and Ocean: Variability, Predictability and Change project of the World Climate Research Programme (WCRP) (<u>https://www.clivar.org/</u>)

understanding of climate variability and change in the Southern Ocean, and advise CLIVAR, CliC, and SCAR on progress, achievements, new opportunities and impediments in Southern Ocean research.

 Tropical Antarctic Teleconnections – TATE (Physical Sciences AG) <u>https://www.scar.org/science/tate/home/</u> Aims to examine climate processes linking the Tropics to Antarctica.

Standing Committees

Standing Committees handle ongoing business of a permanent nature to help SCAR fulfil its mission. Rules on membership of the committees and the governance of them are included in the <u>Rules of Procedure for SCAR Subsidiary Bodies</u>.

- Standing Committee on Antarctic Data Management (SCADM) <u>https://www.scar.org/resources/scadm/overview/</u> SCADM is responsible for fostering the development and maintenance of a network of National Antarctic Data Centres; facilitates co-operation between scientists and nations with regard to scientific data; and advises on the development of the Antarctic Metadata Directory (AMD), the largest directory of Antarctic research data in the world. All SCAR members are encouraged to have national representatives on this committee.
- Standing Committee on Antarctic Geographic Information (SCAGI)
 <u>https://www.scar.org/resources/scagi/overview/</u>
 SCAGI's main function is to manage and improve the geographic framework for Antarctic
 scientific research and for other activities, including operations, environmental
 management and tourism. SCAGI actively develops and updates a range of geographic
 information products by bringing together national information into international syntheses
 for Antarctica.

• Standing Committee on the Antarctic Treaty System (SCATS)

https://www.scar.org/policy/scats/

SCATS is tasked with coordinating and developing SCARs scientific advice to the Antarctic Treaty System. Most advice is provided to the Antarctic Treaty Consultative Meeting (ATCM) and its Committee on Environmental Protection (CEP), and to the Scientific Committee for the Conservation of Antarctic Marine Living Resources (SC-CAMLR). Submissions from SCATS to these bodies include emerging policy-relevant issues, reviews of the state of knowledge and scientific and/or technical advice.

Standing Committee on Finance

https://www.scar.org/about-us/finance-overview/#sc-finance

The SCAR Delegates appoint the three-member Standing Committee on Finance that is responsible for advising the Executive on financial matters. At each SCAR Meeting, the Committee is augmented by two further members who constitute the Finance Committee for that particular meeting. The principal task of this Finance Committee is to consider all applications for SCAR funds and to recommend to the SCAR Delegates' Meeting a budget for each of the two following years.

 Standing Committee on the Humanities and Social Sciences (SC-HASS) <u>https://www.scar.org/science/hass/sc-hass/</u> SC-HASS aims to initiate, develop and coordinate rigorous and high quality international research on the Antarctic region within the Humanities and Social Sciences (HASS); to provide independent advice to the ATCMs on issues requiring disciplinary expertise outside the natural sciences; and to coordinate with existing science groups on issues that call for a multidisciplinary approach. It was formed in 2018 by merging two Expert Groups - the Humanities and Social Sciences group and the History group.

Advisory Groups

 Capacity Building, Education and Training (CBET) <u>https://www.scar.org/capacity-building/cbet/</u> SCAR's CBET Committee is currently charged with helping national members grow their research programmes, providing opportunities for international exchanges and career development, and assisting with sharing Antarctic education resources and tools.

Co-Sponsored Activities

Integrating Climate and Ecosystem Dynamics in the Southern Ocean (ICED)
 <u>https://www.scar.org/science/iced/home/</u>

ICED is an international multidisciplinary programme, developed by the Scientific Committee on Oceanic Research (SCOR) and the International Geosphere-Biosphere Programme (IGBP), it is a regional programme of Future Earth's Integrated Marine Biosphere Research (IMBeR, formerly IGBP's IMBER programme), and is co-sponsored by SCAR. It aims to develop a coordinated circumpolar approach to better understand climate interactions in the Southern Ocean, the implications for ecosystem dynamics, the impacts on biogeochemical cycles, and the development of sustainable management procedures.

• The Southern Ocean Observing System (SOOS)

https://www.scar.org/science/soos/

SOOS is an international initiative of SCAR and the Scientific Committee on Oceanic Research (SCOR). Its mission is to facilitate the collection and delivery of essential observations on dynamics and change of Southern Ocean systems to all international stakeholders (researchers, governments, industries, etc.), through design, advocacy and implementation of cost-effective observing and data delivery systems.

Southern Ocean Decade Task Force (SO-Decade) https://www.sodecade.org/ Coordinated by SCAR, the Southern Ocean Decade Task Force was set up to develop

the Southern Ocean Decade Task Force was set up to develop the Southern Ocean Action Plan, part of the UN Decade of Ocean Science. To achieve the Ocean Decade vision, a wide range of partners will implement endorsed Decade Actions in the form of programmes, projects or activities over the next ten years.