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**Report of the SCAR Delegation to
ATCM XLIII and CEP XXIII
Paris, France (hosted online)
14-24 June 2021**



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Report of the SCAR Delegation to ATCM XLIII and CEP XXIII Paris, France (hosted online), 14-24 June 2021

Introduction

SCAR provides objective and independent scientific advice to the Antarctic Treaty Consultative Meetings (ATCM) and other organizations on scientific issues affecting the conservation and management of Antarctica. This advice is coordinated through the SCAR Standing Committee on the Antarctic Treaty System (SC-ATS). The SCAR Delegation to ATCM XLIII and CEP XXIII comprised Dr Yeadong Kim (SCAR President), Dr Susie Grant (SC-ATS Chief Officer), Prof Mahlon “Chuck” Kennicutt II (SCAR Secretariat Executive Consultant) and Dr Chandrika Nath (SCAR Executive Director).

Summary of Engagement

The 2021 ATCM and Committee on Environmental Protection (CEP) were held as virtual meetings, hosted by France. SCAR attended in its capacity as an Observer, and submitted eight Working Papers (WPs) and ten Information Papers (IPs) across a range of topics (see Table 1 for a full list of submissions). These papers are all available on the [SCAR website](#).

SCAR contributions to the ATCM and CEP were well received, with many Parties commenting on the high quality of scientific input provided to the meetings. The ATCM endorsed the recommendations proposed by SCAR in its paper on *Antarctic and Southern Ocean Climate Change in a Global Context* (WP017) and welcomed its overview paper on *Ocean Acidification in the Southern Ocean* (WP036). These papers also provided scientific background in support of a Resolution on Antarctica in a Changing Climate agreed by the Parties. Based on recommendations from a SCAR group convened under the Expert Group on Birds and Marine Mammals (EG-BAMM) on the conservation status of emperor penguins (WP037), the CEP agreed to establish an Intersessional Contact Group (ICG) to develop an Action Plan for designation of the emperor penguin as a Specially Protected Species. The CEP also endorsed the *SCAR Environmental Code of Conduct for Geosciences Field Research Activities* (WP033) and encouraged the continuation of work on systematic identification of globally-important geological sites in Antarctica (WP034). The Antarctic Environments Portal (managed by SCAR) was acknowledged as a high-quality source of the best available science to support decision-making.

There was no SCAR Lecture this year due to the online format of the meeting, but SCAR was invited to give a lecture on the update to the Antarctic Climate Change and the Environment (ACCE) report at ATCM XLIV in 2022.

The [Paris Declaration](#) was adopted by the Parties to mark the 60th Anniversary of the entry into force of the Antarctic Treaty and the 30th Anniversary of the signing of the Madrid Protocol. The Declaration reinforces the value of the engagement of SCAR in providing scientific advice to the ATCM.

Agreements and Commitments

The following agreements and commitments for future SCAR actions and inputs have been made (in the 2021 meetings and associated discussions, or in previous meetings):

- Present an updated Antarctic Climate Change and the Environment Report and deliver a SCAR Lecture on this topic **(ATCM XXLIV, 2022)**.
- Climate Change Response Work Programme – provide information relevant to the identified science needs, including via Antarctic Environments Portal Information Summaries **(ongoing)**.
- Antarctic bioprospecting – continue to update Parties on relevant publications **(ongoing)**.
- Identification of globally-important geological sites (Antarctic Geosites) – continuation of work through the SCAR Expert Group on Geological Heritage and Geoconservation **(2021/22, and ongoing)**.
- Management of the Antarctic Environments Portal, and development of new and updated Information Summaries relevant to CEP and ATCM discussions (suggested topics include the cryosphere, ocean acidification, cumulative impacts, and microplastics) **(ongoing)**.
- Important Bird Areas – refine and test the draft criteria for selection of IBAs or other colonies or aggregations that may merit consideration for ASPA designation (in collaboration with ACAP and other seabird experts) **(2021/22)**.
- Emperor penguin listing as Antarctic Specially Protected Species – contribute to ICG on the development of an Action Plan as required **(2021/22)**.
- Earthquake risk – preliminary update on seismological investigations in Antarctica **(ATCM XLIV, 2022)** and further work in collaboration with COMNAP on earthquake risk **(2022/23)**.

Additional actions for SCAR (including some carried over from previous years, and/or delayed due to the pandemic) are listed in the CEP 5-Year Work Plan:

- SCAR to present information on existing mechanism to assist with the identification of non-native species (CEP XXIII 2022).
- Advice from SCAR on potential design of an environmental monitoring programme to assess the impacts of tourism (CEP XXIII 2022).
- SCAR to compile a list of available biodiversity information sources and databases to help Parties establish which native species are present at Antarctic sites and thereby assist with identifying the scale and scope of current and future introductions (2022/23 intersessional period).
- Report from SCAR and others on wilderness values and their practical application (CEP XXIV 2023).
- Report from SCAR on tourism carrying capacity (CEP XXIV 2023).

Engagement Detail

The following sections summarise the outcomes of discussions on SCAR papers submitted to the ATCM and CEP. Information is also provided on non-SCAR papers that resulted in SCAR-related discussion. Further detail on the presentation of all papers and responses can be found in the final reports of ATCM XLIII and CEP XXIII available on the [Antarctic Treaty Secretariat website](#).

Antarctic Bioprospecting

SCAR presented the findings of a survey of its member countries to assess the extent to which bioprospecting has been undertaken through National Antarctic Programmes since 2010 (WP016). Further detail on a review of national Antarctic science strategies to assess the extent to which bioprospecting is prioritized, and a review of literature published since 2010 was also provided (IP012).

The ATCM thanked SCAR for its work on this topic, and welcomed its offer to continue to update Parties on relevant scientific publications. While noting a lack of consensus around certain issues such as definitions concerning bioprospecting, Parties reaffirmed that the Antarctic Treaty System provided the appropriate and comprehensive framework for managing this issue within the Antarctic Treaty Area.

Antarctic and Southern Ocean Climate Change in a Global Context

The CEP commended SCAR for its paper on *Antarctic and Southern Ocean Climate Change in a Global Context* (WP017) and emphasized the value of being provided with such science synthesis as a basis for its work. It also recognised the importance of the new SCAR Scientific Research Programmes and stressed the desire to be updated on progress. The Committee noted that it was looking forward to the decadal update of the ACCE Report next year. The Committee expressed general support for the paper's recommendations, with many Members highlighting the significance of international collaboration, long-term monitoring and research on climate change and its impacts, scientifically-informed policy, the interlinkages between Antarctica and the global earth system, and the implementation of the Paris Agreement.

The ATCM also thanked SCAR for this contribution, and reiterated SCAR's critical role in supporting the ATCM's efforts to address climate change, noting that the paper underscored the fundamental importance and urgency of work on climate change response, particularly through the implementation of the CEP's Climate Change Response Work Programme. The Meeting also noted the importance and relevance of the IPCC special reports for the Antarctic Treaty Area and discussed the various concerning impacts that the reports highlighted for the region, including increased melting of ice shelves, impacts on marine ecosystems, impacts on historic sites and monuments, and the increased risk of the introduction of non-native species. Highlighting the critical nature of the uncertainties noted in WP017, the central role that Antarctica and the Southern Ocean played in global climate, and the need for good observations to support models and modelling to inform policy, the ATCM agreed to express the need to prioritise scientific investigations of climate change, and supported the recommendations made by SCAR on prioritising scientific investigations of climate change, and conveying to their nations the importance of the Paris Climate Agreement for protecting Antarctic and Southern Ocean environments from further impacts of climate change.

Based on the key findings from the IPCC Report (SROCC, 2019), as highlighted by SCAR in its WP017, the ATCM adopted an updated Resolution on Climate Change. The Resolution includes:

- Welcoming the regular updates by the Scientific Committee on Antarctic Research (SCAR) of its Antarctic Climate Change and the Environment report and looking forward to receiving further advice in due course emanating from SCAR's three new climate-change-focused Scientific Research Programmes: INSTANT, AntClimNow and Ant-ICON.

- Support their national Antarctic programmes and SCAR in their ongoing efforts to undertake research about climate change and its impacts, and to communicate the implications for Antarctica, both within the Antarctic Treaty System and internationally.

Ocean Acidification

The CEP thanked SCAR for its important overview of the impact of increasing ocean acidification on the Antarctic environment (WP036). It commended SCAR for coordinating research into ocean acidification in the Southern Ocean and recommended a continuation of international collaboration in science and monitoring. On this note, several Members supported the use of new sensing technologies to continue monitoring changes to the Southern Ocean's pH. Given the rapid warming of the Antarctic Peninsula region and the concentration of several Parties' research stations, a coordinated observation effort in this area should be encouraged.

The ATCM also thanked SCAR for its paper and expressed its concerns at the paper's alarming findings. It noted the importance and urgency of taking action to address ocean acidification and related impacts on the Southern Ocean and its ecosystems, while also noting the important links between Antarctica and the rest of the globe in relation to climate change and ocean acidification.

Climate Change Response Work Programme

The updated CCRWP refers to SCAR as a key source of information on climate change. However, consensus was not reached on updating the CCRWP, and the Subgroup on Climate Change Response will therefore continue its work during the intersessional period.

SCAR noted that it was very useful to have had the opportunity to participate in discussions on the CCRWP during the intersessional period, especially on the process for providing relevant Information Summaries through the Antarctic Environments Portal if requested by the CEP. SCAR will continue to provide information in support of the CCRWP, through the Portal as well as through our other inputs to the CEP. The decadal update to the SCAR Climate Change and the Environment Report will also be helpful in this regard.

Antarctic Environments Portal

SCAR presented an update on the Antarctic Environments Portal (WP019), outlining the structure of the new website, and providing examples of how Information Summaries published in the Portal are directly linked to issues of priority interest. The paper also encouraged the CEP to identify and provide feedback to SCAR on additional Information Summaries that they would like to see prepared, including in relation to science needs identified in the Climate Change Response Work Programme (CCRWP).

The CEP thanked SCAR for its work, and reiterated its continued support for the Portal, noting once more its value as a source of high-quality scientific information on subjects of relevance to the work of the Committee.

Several Members offered suggestions for the Portal's contents, including highlighting the importance of Information Summaries on the cryosphere and ocean acidification, in particular in light of information provided in WP017 and WP036; and adding as new topics cumulative impacts and microplastics. Some Members also noted the

importance of maintaining the geographical balance and gender diversity of the authorship of the information provided in the Portal, noting that it was important to include peer-reviewed publications in a variety of languages, and to translate papers whenever possible into the official Treaty languages. Several Members commented on their ad-hoc arrangements for translating research into the four Treaty languages, and offered translation support to SCAR to further enhance the usefulness of the Portal to the Committee.

SCAR thanked the CEP for its positive feedback and continued support, and welcomed the Committee's suggestions for additions to the Portal. It reiterated that it welcomed the inclusion of peer-reviewed publications in multiple languages in the Portal and noted that Information Summaries in the Portal were written by scientists. SCAR encouraged Members to join the effort to provide more comprehensive summaries for publications in various languages. SCAR also noted its continued commitment to gender, linguistic and geographical diversity of information, and welcomed any efforts to improve this in the Portal work.

The ATCM thanked SCAR for taking on the management of the Antarctic Environments Portal, a source of the best available information for policymakers, and for supporting the work of the CEP and ATCM. Several Parties reiterated the importance of ensuring the information contained in the Portal was based on the best available science and that contributions reflected broad participation in terms of gender, four official languages, and geographical balance.

Environmental Code of Conduct for Geosciences Field Research Activities in Antarctica

The CEP thanked SCAR for its work to update the Code of Conduct (WP033), and noted the importance of ensuring that geological research in Antarctica had a minimal impact on the Antarctic environment. It also recognized the important work being undertaken on the conservation of geological heritage. Many Members commended SCAR for the broad and inclusive process in updating the Code of Conduct. Members expressed their support for the Code of Conduct and emphasized its usefulness in EIA processes. Members also reiterated their commitment to maintaining updated information regarding their collections of geological specimens and data through the [list of national repositories](#) on the SCAR website.

The CEP endorsed the Code of Conduct (with some minor additions suggested by Parties during the meeting), and agreed to encourage its dissemination and use when planning and undertaking geoscience field activities. It was agreed that further updates including: (i) expansion of the section on planning fieldwork activities, to encourage better preparation for data and sample storage, and (ii) consideration of the work of the International Geoethics Association, could be considered for incorporation in future updates.

The ATCM thanked SCAR for its work on updating the Environmental Code of Conduct for Geosciences Field Research Activities in Antarctica, and adopted Resolution 1 (2021) encouraging its use and dissemination.

Systematic identification of globally important geological sites in Antarctica

The CEP welcomed the continuing work of SCAR, including through the SCAR Expert Group on Geological Heritage and Geoconservation, on identifying globally

important geological sites (Antarctic Geosites) (WP034) and encouraged it to report back on this work.

Designation of the emperor penguin as an Antarctic Specially Protected Species

The SCAR Expert Group on Birds and Marine Mammals (EG-BAMM) convened a working group to review the conservation status of the emperor penguin, to inform the consideration of its designation as an Antarctic Specially Protected Species. The conclusions of the review were presented in WP037, with supporting information in IP022.

The CEP thanked SCAR for presenting its high-quality, comprehensive and important papers, which clearly highlighted the implications of climate change for the emperor penguin. Members found the papers' findings to be robust and compelling, and supported the need for a considered and prompt response by the Committee.

The CEP agreed to establish an Intersessional Contact Group (ICG) to prepare a revised draft action plan for the emperor penguin to be presented to ATCM XLIV - CEP XXIV, together with SCAR's assessment of the emperor penguin's conservation status (in WP037), in accordance with the Guidelines for CEP Consideration of Proposals for New and Revised Designations of Antarctic Specially Protected Species under Annex II to the Protocol.

The ATCM commended the CEP for establishing the ICG to prepare an Action Plan toward the further protection of Emperor Penguins and acknowledged the important scientific advice provided by SCAR on the emperor penguin.

COVID-19 and Antarctica

The ATCM adopted a Resolution on Coronavirus Disease (2019) and Antarctica, including recommendations that governments:

- Encourage the continued cooperation, information sharing and development of best practice between National Antarctic Programmes, COMNAP, SCAR and IAATO to prevent the future transfer of COVID-19 to Antarctica and to support scientific research programmes to continue safely.
- Further encourage National Antarctic Programmes, COMNAP, SCAR and IAATO to continue to developing protocols and guidelines, drawing on the lessons learned from the COVID-19 experience in preparation for any future similar eventualities.

The ATCM also thanked SCAR for its paper on *Risks of COVID-19 to Antarctic Wildlife* (IP055). Several Members highlighted the disease surveillance network established by SCAR's Antarctic Wildlife Health Monitoring Group to coordinate research and surveillance programmes on the impacts of current and emerging infectious diseases on Antarctic wildlife.

Earthquake Emergency Management System

Following the recommendations of WP065 (*Earthquake Emergency Management System*) submitted by Chile, SCAR was requested to provide an update on seismological investigations or potential disaster risks in Antarctica. The ATCM agreed that while SCAR was the most appropriate body to provide scientific

information, COMNAP and IAATO were best placed to lead risk assessments to people and infrastructure.

Retrospective Analysis of Antarctic Tracking Data

The Committee thanked SCAR for IP049 (Rev1) on *The Retrospective Analysis of Antarctic Tracking Data identifies Areas of Ecological Significance in the Southern Ocean* and highlighted the excellent work and scientific value of the RAATD project. Many Members noted the importance of initiatives and tools such as RAATD and Areas of Ecological Significance (AESs) in developing greater understanding of the connectivity between the land and ocean, and that this understanding was applicable to other instruments under the ATS including CCAMLR. They also noted that SCAR's study on AESs provided an excellent example of international scientific cooperation and collaboration.

While a number of Members expressed support for a draft Resolution on the value of RAATD proposed by France (WP052), others raised concerns about aspects of the paper, including the close relationship between the proposed AES and CCAMLR's work on marine protection.

Important Marine Mammal Areas

IUCN and SCAR submitted IP024 on *Important Marine Mammal Areas (IMMAs) within the Antarctic Treaty area: An international collaboration to inform habitat-related conservation decision-making and conservation planning for marine mammal species*. The CEP supported a call for further research and monitoring of marine mammal populations to inform management actions but, as time did not allow an in-depth discussion, it could not agree to support the draft Resolution put forward by France (WP053) at this stage, and agreed to continue discussion at CEP XXIV.

Diversity issues in Antarctic science

A new action to "address equality, diversity and inclusion" was added to the ATCM Multi-year Strategic Work Plan. Parties raised issues including: the importance of addressing not only gender equality but also other factors related to intersectionality and diversity; the need to strengthen efforts to tackle gender inequalities; the fact that SCAR was already undertaking work on gender equality; the broader discussion of defining the concept of diversity; the desire to reach gender parity and work towards minimising the gender gap; the importance of having diversity of engagement and thought, not only in science, but also in management and operational levels.

Additional Information Papers

SCAR also submitted the following Information Papers that were not discussed in detail:

- *The Scientific Committee on Antarctic Research Annual Report 2021 to the Antarctic Treaty Consultative Meeting XLIII* (IP029).
- *Development of draft Antarctic Terrestrial and Underwater Archaeology Best Practice guidelines* (IP135) – prepared by the International Polar Heritage Committee.
- *The Southern Ocean contribution to the United Nations Decade of Ocean Science for Sustainable Development* (IP136).

- *Persistent Organic Chemicals in Antarctica: A horizon scan of priority challenges* (IP137).
- *State of Antarctic Penguins Report* (IP060, Rev1) – prepared by Oceanites.

Table 1: SCAR submissions to ATCM XLIII and CEP XXIII

Item	Title	Proponents	Agenda
WP016	Antarctic Bioprospecting: SCAR Survey of Member Countries	SCAR	ATCM 9
WP017	Antarctic and Southern Ocean Climate Change in a Global Context	SCAR	ATCM 16 CEP 7a
WP019	Antarctic Environments Portal Update	SCAR	CEP 11
WP033	Code of Conduct for Geosciences Field Research	SCAR	CEP 8b
WP034	Systematic identification of globally important geological sites in Antarctica	SCAR	CEP 9e
WP036	Ocean Acidification in the Southern Ocean	SCAR	ATCM 16 CEP 7a
WP037	Projections of future population decline emphasise the need to designate the emperor penguin as an Antarctic Specially Protected Species	SCAR	CEP 10b
WP063	COVID-19 and Antarctica	New Zealand, Argentina, Australia, Chile, Norway, United Kingdom and SCAR	ATCM 6b
IP012	Antarctic Bioprospecting: SCAR Survey of Member Countries (further detail in support of WP016)	SCAR	ATCM 9
IP022	Emperor penguins – Specially Protected Species (further detail in support of WP037)	SCAR	CEP 10b
IP024 (rev 1)	Important Marine Mammal Areas (IMMAs)	IUCN and SCAR	CEP 92
IP029	The Scientific Committee on Antarctic Research Annual Report 2021 to the Antarctic Treaty Consultative Meeting XLIII	SCAR	ATCM 4 CEP 5
IP135	Development of draft Antarctic Terrestrial and Underwater Archaeology Best Practice guidelines	SCAR	CEP 9b
IP136	The Southern Ocean contribution to the United Nations Decade of Ocean Science for Sustainable Development	SCAR	ATCM 15a
IP137	Persistent Organic Chemicals in Antarctica: A horizon scan of priority challenges	SCAR	CEP 11
IP049 (Rev 1)	Retrospective Analysis of Antarctic Tracking Data (RAATD)	SCAR	CEP 9e
IP055	Risks of COVID-19 to Antarctic wildlife	SCAR	CEP 9c
IP060 (Rev 1)	State of Antarctic Penguins Report	SCAR	CEP 10c

Appendix 1: List of Acronyms

ACAP	(Advisory Committee to the) Agreement on the Conservation of Albatrosses and Petrels
ACCE	Antarctic Climate Change and the Environment
AEP	Antarctic Environments Portal
AES	Area of Ecological Significance
AntClim ^{now}	Near-term Variability and Prediction of the Antarctic Climate System
Ant-ICON	Integrated Science to Inform Antarctic and Southern Ocean Conservation
ASPA	Antarctic Specially Protected Area
ASPS	Antarctic Specially Protected Species
ATCM	Antarctic Treaty Consultative Meeting
CCAMLR	Commission for the Conservation of Antarctic Marine Living Resources
CCRWP	Climate Change Response Work Programme
CEP	Committee for Environmental Protection (Antarctic Treaty)
COVID-19	Coronavirus disease, emerged in 2019 and caused a global pandemic
EG-BAMM	Expert Group on Birds and Marine Mammals
EIA	Environmental impact assessment
ICG	Intersessional Contact Group
IMMA	Important Marine Mammal Area
INSTANT	INStabilities & Thresholds in ANTArctica
IP	Information Paper
IPCC	Intergovernmental Panel on Climate Change
IUCN	International Union for Conservation of Nature
RAATD	Retrospective Analysis of Antarctic Tracking Data
SCAR	Scientific Committee on Antarctic Research
SCATS	Standing Committee on the Antarctic Treaty System
SROCC	IPCC Special Report on Oceans and Cryosphere
WP	Working Paper