Review of progress in the implementation of the recommendations identified at the Joint CEP/SC-CAMLR Workshop on Climate Change and Monitoring (2016)

**Review of progress in the implementation of the recommendations identified at the Joint CEP/SC-CAMLR Workshop on Climate Change and Monitoring (2016)**

Working Paper submitted by Argentina, Australia, France and the United States

Summary

This paper presents the results of a review of progress in the implementation of the recommendations identified in the Report of the Joint CEP/SC-CAMLR Workshop on Climate Change and Monitoring (2016). This review was undertaken during the 2021-22 intersessional period by Argentina, Australia, France and the United States.

The working paper co-authors recommend that the CEP:

* considers the review of progress in the implementation of the recommendations identified at the Joint CEP/SC-CAMLR Workshop on Climate Change and Monitoring (2016) presented in Annex 1;
* refers this paper to SC-CAMLR for its consideration; and
* in accordance with actions identified in the CEP Five-Year Work Plan, engages with SC-CAMLR to make plans for a further Joint CEP/SC-CAMLR workshop on Climate Change and Monitoring to be held in the near future.

Background

The Climate Change Response Work Programme (CCRWP) was adopted through Resolution 4 (2015). Following discussions within the CEP regarding updating, implementation and follow-up of the CCRWP, a decision was made at ATCM XL (Decision 1 (2017)) to establish a new Subsidiary Group on Climate Changes Response (SGCCR). The Terms of Reference for the SGCCR are to facilitate the efficient and timely implementation of the CCRWP.

The 2016 CCRWP contains an action (3e) to maintain a ‘*regular dialogue (or sharing of information)*’ with the Scientific Committee for the Conservation of Antarctic Marine Living Resources (SC-CAMLR) on climate change, in particular on actions being taken.

The SGCCR work program for the 2021-22 intersessional period further includes a task (3d) to ‘*Continue to work with CCAMLR to identify the process for deﬁning reference areas for future research*’. This task relates to the CCRWP issue of ‘*Change to marine near-shore abiotic and biotic environment (excluding Ocean Acidification*)’. During the 2021-22 intersessional period, the members of the SGCCR, led by the United Kingdom, were encouraged to take actions to implement the CCRWP and progress the work of the SGCCR.

In addition, under the priority issue ‘Climate Change Implications for the Environment’, the CEP Five-Year Work Plan contains actions for CEP XXIV (2022) to ‘*Review implementation of actions arising from 2016 joint CEP/SC-CAMLR* *workshop*’ and ‘*Plan for five-yearly joint workshop*’.

In order to contribute to the implementation of these actions/tasks, Argentina, Australia, France and the United States volunteered to review progress in the implementation of the recommendations identified in the Report of the Joint CEP/SC-CAMLR Workshop on Climate Change and Monitoring (2016) held in Punta Arenas, Chile. This work involved national CEP and SC-CAMLR representatives.

Results

The result of this analysis is presented in Annex 1. The co-authors assessed for each of the recommendations identified in the Report of the Joint CEP/SC-CAMLR Workshop on Climate Change and Monitoring (2016), the actions undertaken to fulfil these recommendations by the CEP and SC-CAMLR.

Recommendation

Argentina, Australia, France and the United States recommend that the CEP:

* considers the review of progress in the implementation of the recommendations identified at the Joint CEP/SC-CAMLR Workshop on Climate Change and Monitoring (2016) presented in Annex 1;
* refers this paper to SC-CAMLR for its consideration; and
* in accordance with actions identified in the CEP Five-Year Work Plan, engages with SC-CAMLR to make plans for a further Joint CEP/SC-CAMLR workshop on Climate Change and Monitoring to be held in the near future.

**Annex 1: Review of progress in the implementation of the recommendations identified at the Joint CEP/SC-CAMLR Workshop on Climate Change and Monitoring (2016)**

| **Rec #** | **Recommendation Text** | **Related SC-CAMLR activities** | **Related CEP Activities** |
| --- | --- | --- | --- |
| 1 | Encourage SC-CAMLR and CEP to recognize, encourage and support wherever possible the contribution that programmes such as SCAR, ICED and SOOS can make to their work on climate change and related monitoring. | * SC-CAMLR-XXXV welcomed SC-CAMLR-XXXV/07 *Convener’s Report of the Joint CEP/SC-CAMLR Workshop on Climate Change and Monitoring* (United Kingdom and the USA) and endorsed the workshop’s recommendations (SC-CAMLR XXXV para. 8.6). * The SC discussed the importance of developing a strategic work plan and it was noted that the theme of ecosystem interactions and climate change would benefit from engagement with external expert groups (SC-CAMLR XXXV para. 13.5) * Since the workshop, the SC-CAMLR has welcomed several reports on the existing and planned activities of SCAR, WMO, ICED and SOOS, including:   + SC-CAMLR-XXXVI/BG/14 *Report on 2017 Activities of the Southern Ocean Observing System (SOOS), relevant to the work of CCAMLR* (SCOR)   + SC-CAMLR-XXXVI/BG/14 *Mapping SCAR affiliated research to the CEP's Climate Change Response Work Programme (CCRWP)* (SCAR)   + SC-CAMLR-XXXVI/BG/16 *Antarctic Climate Change and the Environment – 2017 Update* (SCAR)   + SC-CAMLR-XXXVII/BG/16 *Integrating Climate and Ecosystem Dynamics in the Southern Ocean (ICED) programme: Report of the ICED–CCAMLR Projections Workshop, 5 to 7 April 2018* (Multiple authors)   + SC-CAMLR-XXXVII/BG/19 *Delivering enhanced data access through CCAMLR–SOOS collaboration* (Multiple authors)   + SC-CAMLR-XXXVII/BG/31 *Networks and tools to enhance collaboration and coordination of observational activities (SOOS)*   + SC-CAMLR-XXXVII/BG/22 Marine Ecosystem Assessment for the Southern Ocean (MEASO) (Multiple authors)   + SC-CAMLR-39/BG/12 *The United Nations’ Intergovernmental Panel on Climate Change’s (IPCC) Special Report on the Ocean and Cryosphere in a Changing Climate: what does CCAMLR need to know?* (Multiple authors)   + SC-CAMLR-39/BG/*22* [*Climate change and CCAMLR – update on recent research*](https://www.ccamlr.org/en/sc-camlr-39/bg/22) (SCAR) * In 2015, the Commission endorsed the formation of an ICG to consider approaches for integrating climate change into the work of CCAMLR and adopted ToR for this group (CCAMLR XXXIV para. 7.12 and Appendix 8). The ToR include developing recommendations for how the Commission might implement the outcomes of the Joint CEP/SC-CAMLR workshop to be held in 2016. * SCAR has been represented in the in the CCAMLR Climate Change e-group. * In 2017, the Commission considered implementing a Climate Change Response Plan but was not able to reach consensus to adopt the plan and associated ToR (CCAMRL-XXXVI 2017 para. 7.8). * In 2020, the Commission welcomed the intent to develop new ToR for the climate change e-group in order to further development of mechanisms to ensure the latest climate change research is integrated into the work of the Scientific Committee and considered in the development of management advice for the Commission (CCAMLR-39 para. 8.36). * SC-CAMLR-40 (2021) considered a proposal to update the ToR for the ‘Climate change impacts and CCAMLR’ e-group to allow the SC to assess the risks presented by Climate Change. While not endorsing the revised ToR, the SC noted the importance of the group’s work (SC-CAMLR-40 para 5.4). | * CEP XIX noted that Recommendations 1 to 4 are closely aligned with actions prioritized in the existing Climate Change Response Work Programme, and encouraged further incorporation of these recommendations into CCRWP updates and the CEP’s 5-year work plan. SCAR noted that work was already underway or planned in the near future, consistent with the priorities in the CCRWP (CEP XIX Final Report para. 50). * Since the workshop, the CEP has welcomed several reports on the existing and planned activities of SCAR, WMO, ICED and SOOS, including:   + [ATCM XL/IP052](https://documents.ats.aq/ATCM40/ip/ATCM40_ip052_e.doc) *Integrating Climate and Ecosystem Dynamics in the Southern Ocean (ICED) programme* (United Kingdom)   + [ATCM XL/IP068](https://documents.ats.aq/ATCM40/ip/ATCM40_ip068_e.doc) *Update on activities of the Southern Ocean Observing System (SOOS)* (SCAR)   + [ATCM XL/IP069](https://documents.ats.aq/ATCM40/ip/ATCM40_ip069_e.doc) *Mapping SCAR affiliated research to the CEP's Climate Change Response Work Programme (CCRWP)* (SCAR)   + [ATCM XL/IP80rev.1](https://documents.ats.aq/ATCM40/ip/ATCM40_ip080_rev1_e.doc) *Antarctic Climate Change and the Environment – 2017 Update* (SCAR)   + [ATCM XL/IP112](https://documents.ats.aq/ATCM40/ip/ATCM40_ip112_e.doc) *WMO Annual Report 2016-2017* (WMO)   + [ATCM XL/IP118](https://documents.ats.aq/ATCM40/ip/ATCM40_ip118_e.doc) *Progress Update on WMO Polar Regional Climate Centres* (WMO)   + [ATCM XLI/IP033](https://documents.ats.aq/ATCM41/ip/ATCM41_ip033_e.doc) *Update on activities of the Southern Ocean Observing System (SOOS)* (SCAR)   + [ATCM XLI/IP047](https://documents.ats.aq/ATCM41/ip/ATCM41_ip047_e.doc) *WMO Annual Report 2017-2018* (WMO)   + [ATCM XLII/IP075](https://documents.ats.aq/ATCM42/ip/ATCM42_ip075_e.doc) Update on activities of the Southern Ocean Observing System (SOOS) (SCAR)   + [ATCM XLII/IP092](https://documents.ats.aq/ATCM42/ip/ATCM42_ip092_e.doc) *WMO Annual Report 2018-2019* (WMO)   + [ATCM XLII/IP136](https://documents.ats.aq/ATCM42/ip/ATCM42_ip136_e.doc) *Antarctic Climate Change and the Environment – 2019 Updat*e (SCAR)   + [ATCM XLII/IP135](https://documents.ats.aq/ATCM42/ip/ATCM42_ip135_e.doc) *SCAR Science Lecture 2019: What Does the Paris Climate Agreement mean for Antarctic and Southern Ocean Environmental Protection?* (SCAR)   + [ATCM XLII/IP136](https://documents.ats.aq/ATCM42/ip/ATCM42_ip136_e.doc) *Antarctic Climate Change and the Environment – 2019 Updat*e (SCAR)   + [ATCM XLIII/WP017](https://documents.ats.aq/ATCM43/wp/ATCM43_wp017_e.docx) *Antarctic and Southern Ocean Climate Change in a Global Context* (SCAR)   + [ATCM XLIII/WP037](https://documents.ats.aq/ATCM43/wp/ATCM43_wp037_e.docx) *Projections of future population decline emphasise the need to designate the emperor penguin as an Antarctic Specially Protected Species* (SCAR)   + [ATCM XLIII/IP022rev.1](https://documents.ats.aq/ATCM43/ip/ATCM43_ip022_rev1_e.docx) *Projections of future population decline emphasise the need to designate the emperor penguin as an Antarctic Specially Protected Species* (SCAR)   + [ATCM XLIII/IP093](https://documents.ats.aq/ATCM43/ip/ATCM43_ip093_e.docx) *WMO Annual Report* (WMO)   + [ATCM XLIII/IP095](https://documents.ats.aq/ATCM43/ip/ATCM43_ip095_e.docx) *Antarctic Regional Climate Centre Network: the scope and concept* (WMO) * The [CEP Climate Change Response Work Programme (CCRWP)](https://documents.ats.aq/ATCM39/att/atcm39_att072_e.doc) adopted at CEP XIX in 2016 identifies related actions, including:   + Support and undertake collaborative long term monitoring of change (e.g. SOOS, ANTOS) and seek regular state of knowledge reports from such programmes.   + SCAR to assimilate overview of how existing research programmes (such as SOOS and ANTOS) can contribute to CEP’s management interests.   + CEP Chair to write to Steering Committees of relevant international research programmes (e.g. ICED) to request regular update reports. * SCAR and WMO have also been represented in the Subsidiary Group on Climate Change Response (SGCCR). * At CEP XXIII, the Committee thanked SCAR for its high quality, comprehensive and important papers clearly highlighting the implications of climate change for the emperor penguin, and agreed to establish an ICG to prepare a revised draft action plan for the emperor penguin (CEP XXIII Final Report paras. 187, 194). |
| 2 | Encourage the articulation of clear questions to be addressed to scientific programmes in order to obtain the best scientific advice relevant to the goals of the CEP and SC-CAMLR. | * The 2017 five-year work plan (SC-CAMLR-XXXVI/BG/40 *Development of a five-year work plan for the CCAMLR Scientific Committee*) includes the theme of spatial management of impacts on the Antarctic ecosystem and the development of research and monitoring plans for existing CCAMLR MPAs. The plan points to the use of spatial management to assist in understanding climate change impacts. The SC noted that climate change is a coherent thread throughout its work plan and essential to the work of the SC. The SC Chair suggested that climate change should be addressed at each working group (SC-CAMLR XXXVI para. 13.2). * In 2017, the Commission considered implementing a Climate Change Response Plan but was not able to reach consensus to adopt the plan and associated ToR (CCAMRL-XXXVI 2017 para. 7.8) * Scientists from the SC-CAMLR community are regularly invited to participate in workshops and meetings held by external scientific programs where questions are posed as to research programs, e.g., Annual SCAR Krill Action Group meeting (2022) and are involved in posing and answering scientific questions. | * At CEP XXI (2018) the Committee decided to update the format of its rolling five-year work plan to identify science, knowledge and information needs related to priority issues, including ‘Climate Change Implications for the Environment’ (CEP XXI Final Report para. 134). * As indicated in [ATCM XLIII/WP014](https://documents.ats.aq/ATCM43/wp/ATCM43_wp014_e.docx), the SGCCR has worked to identify science required to inform implementation of the CCRWP. To help facilitate communication of these to researchers (for example, in SCAR, WMO and other research organisations) in a succinct and easily understood manner, at CEP XXIII (2021) the Committee agreed add those science needs to CEP five-year work plan (CEP XXIII Final Report para. 41). |
| 3 | Identify and convey shared climate change research and monitoring needs to SCAR, ICED and SOOS, and other similar programs, using the process outlined in Table 2. | * The 2017 five-year work plan (SC-CAMLR-XXXVI/BG/40 Development of a five-year work plan for the CCAMLR Scientific Committee) includes interactions and joint activities involving SCAR, ICED, MEASO, and other programs. * SC-CAMLR held a strategic planning symposium in February 2022, and a new five-year work plan is likely to be adopted at the 2022 meeting of SC-CAMLR. Included as priority research topics the following: research and monitoring of MPAs, monitoring and adaptation to effects of climate change, ecosystem monitoring. This plan is likely to continue to identify interactions and joint activities involving SCAR, ICED, MEASO, etc. | * The terms of reference for the SGCCR include to facilitate coordination and communication of the CCRWP (including related research and monitoring needs) between Members, Observers and Experts, and to identify proposed research or monitoring actions. * At CEP XXI (2018) the Committee agreed that including science, knowledge and information needs in the five-year work plan would be beneficial to communicate the CEP science needs directly to relevant groups. It also noted that the SGCCR could play an important communication role for those science needs relevant to matters identified in the CCRWP (CEP XXI Final Report para. 134).   As indicated in [ATCM XLII/WP036](https://documents.ats.aq/ATCM42/wp/ATCM42_wp036_e.doc) *Report of the Subsidiary Group on Climate Change Response (SGCCR) 2018-2019* (United Kingdom), the SGCCR has identified that its priority roles include ‘communicating Antarctic climate change response-related science needs to the research community’, and actions have been taken to reach out directly to relevant bodies engaged in Antarctic research and monitoring activities. |
| 4 | Encourage the periodic production of high-level summaries of outcomes and progress made in programmes such as ACCE, ICED, SOOS, etc. in order to aid the CEP and SC-CAMLR in the understanding of the current state of knowledge and in the formation of questions to help progress work on climate change. | * See Recommendations 1 and 10. | * See Recommendations 1 and 10. |
| 5 | Encourage flexibility in the composition of national delegations according to relevant agenda items, to allow SC-CAMLR, CEP and SCAR to engage in discussions on specific topics. | * This recommendation is for individual SC-CAMLR Members to consider. | * CEP XIX noted that Recommendations 5 to 10 refer to actions that will facilitate the work of both the CEP and SC-CAMLR on climate change, noting that those relating specifically to SC-CAMLR will be considered during its discussions later in the year (CEP XIX Final Report para. 51). * This recommendation is for individual CEP Members to consider. |
| 6 | Consider invitation of experts to CCAMLR Working Groups (particularly WG-EMM for discussions relating to climate change), including appropriate input from programmes such as SCAR, ICED and SOOS. | * Relatively few experts have been invited to participate in CCAMLR Working Groups, but discussions are ongoing with regard to inviting both experts and observers to participate in such groups. There is an important distinction between Experts and Observers within CCAMLR, and some of the programs identified in the recommendation are official Observers, which generally do not participate in CCAMLR working groups. * Exchanges with experts also occur outside of CCAMLR SC and WGs. For example, WG-EMM-2021, para. 2.7 noted that 80 scientists, including CCAMLR scientists, attended the successful ICED workshop (WG-EMM-2021/23 *Using models to improve our understanding of Antarctic Krill and their ecological role: Report of the Integrating Climate and Ecosystem Dynamics of the Southern Ocean (ICED) workshop,* 2021 (multiple authors) and reflected that CCAMLR would benefit from more communication with the wider scientific community. | * For SC-CAMLR consideration |
| 7 | Promote the development of young scientists by encouraging participation in the CCAMLR Scholarship and SCAR Fellowship programmes, with the specific aim of contributing research relevant to climate change. | * Between the years 2012 – 2022, eleven young scientists were awarded fellowships from the scholarship programs of CCAMLR, SCAR, COMNAP and IAATO in the areas of climate change, monitoring, and development of MPAs. * The CCAMLR Scholarship scheme is generally considered to be successful, with several former scholars now playing increased roles within the SC-CAMLR community. * The pandemic has challenged the implementation of the scholarship program in 2020 and 2021 but it is expected the program will resume as international travel opens up and work of CCAMLR returns more to pre-pandemic conditions. | * For SC-CAMLR consideration |
| 8 | Encourage improved visibility of CCAMLR metadata to facilitate discoverability and exploration of data relevant to matters of mutual interest, particularly including CEMP data. | * CCAMLR Secretariat’s Data Centre is the custodian of data collected through CCAMLR’s activities. The use of this data is found in the [Rules for Access and Use of CCAMLR Data](https://www.ccamlr.org/en/document/publications/rules-access-and-use-ccamlr-data). * Discussions are ongoing within SC-CAMLR related to the constraints of the data release policy. | * For SC-CAMLR consideration |
| 9 | Recognize that data sharing is not just sharing the products of research already collected, but information is also needed on future plans to collect additional data, to facilitate combined efforts and avoid duplication of effort. | * CCAMLR’s ICG to integrate climate change considerations includes a ToR which takes into account the work of the ATCM/CEP to identify opportunities for collaboration and information sharing (Report CCAMLR XXXIV Appendix 8). * Members frequently discuss future plans at CCAMLR Working Groups, and, to the extent that such plans are captured in the reports of such groups, this information is distributed more widely. * In 2021, the SC-CCAMLR considered SC-CAMLR-40/09 Rev.1 *Update on the emperor penguin-vulnerable to projected rates of warming and sea ice loss* (multiple authors) which reported on the vulnerability of emperor penguin populations to ongoing and projected climate change. The paper was accompanied by a draft version of the revised Specially Protected Species Action Plan for the emperor penguin developed for consideration by the CEP (SC-CCAMLR-40 para. 5.6). | * The SGCCR terms of reference include to facilitating coordination and communication of the CCRWP between Members, Observers and Experts, highlighting actions identified for the coming year(s) and requesting relevant updates on planned activities (CEP XX Final Report, Appendix 2). |
| 10 | Encourage use of the Antarctic Environments Portal in providing policy-ready summaries on issues of mutual interest to members of both Committees. SC-CAMLR could be encouraged to request topics for inclusion, or to author summaries in due course. | * SC-CAMLR noted that the Joint Workshop recognised that the Antarctic Environments Portal was an important means of bringing the best available research knowledge to the attention of Antarctic policy makers. The SC-CAMLR was encouraged to make further suggestions for topics to be included in the Portal (SC-XXXV para. 8.8). * SC-CAMLR-40/BG/14 *Antarctic Environments Portal* (SCAR) provides examples of Information Summaries published in the Portal that link directly with issues of priority interest and encourages further suggestions for topics of interest to SC-CAMLR. | * The CEP has encouraged and welcomed the continuing development of the Antarctic Environments Portal, as a high quality source of the best available science for policymakers to support decision-making, and which is important for supporting the work of the SGCCR to and implementation of the CCRWP (e.g. CEP XXIII Final Report para. 220). * As indicated in [ATCM XLIII/WP014](https://documents.ats.aq/ATCM43/wp/ATCM43_wp014_e.docx) *Report of the Subsidiary Group on Climate Change Response (SGCCR) 2019-2021* (United Kingdom), the SGCCR has developed a [process for requesting scientific information](https://documents.ats.aq/ATCM43/att/ATCM43_att055_e.docx) relevant to the implementation of the CCRWP, including via (i) the SCAR Antarctic Environments Portal and (ii) other science bodies. * The Antarctic Environments Portal contains many information summaries on climate-change topics relevant both the CEP and SC-CAMLR, for example including:   + [Climate change as an emerging threat to Emperor Penguins](https://environments.aq/publications/climate-change-as-an-emerging-threat-to-emperor-penguins/)   + [Sampling the Southern Ocean: technology for observing the marine system](https://environments.aq/publications/sampling-the-southern-ocean-technology-for-observing-the-marine-system/)   + [Vulnerability of Southern Ocean biota to climate change](https://environments.aq/publications/vulnerability-of-southern-ocean-biota-to-climate-change/)   + [Changes in penguin distribution over the Antarctic Peninsula and Scotia Arc](https://environments.aq/publications/changes-in-penguin-distribution-over-the-antarctic-peninsula-and-scotia-arc/)   + [Antarctic Marine Biodiversity](https://environments.aq/publications/antarctic-marine-biodiversity/) * [Ten scientific messages on risks and opportunities for life in the Antarctic](https://environments.aq/publications/ten-scientific-messages-on-risks-and-opportunities-for-life-in-the-antarctic/) |
| 11 | Recognize the importance of using common baseline information, and recommend that summary information such as ACCE updates and are submitted under climate change agenda item in both Committees. | * Since the workshop, SCAR provided regular ACCE updates to SC-CAMLR   + SC-CAMLR-XXXVI/BG/16 *Antarctic Climate Change and the Environment – 2017 Update* (SCAR)   + SC-CAMLR-38/BG/17 *Antarctic Climate Change and the Environment – 2019 Updat*e (SCAR) * At SC-CAMLR-40 (2021), SCAR also provided:   + *SC-CAMLR-40/BG/12 Antarctic and Southern Ocean Climate Change in a Global Context* (SCAR)   + *SC-CAMLR-40/BG/13 Ocean acidification* (SCAR) | * CEP XIX noted that Recommendations 11 and 12 require the development of further scientific input, and encouraged the involvement of SCAR and its associated programmes and other relevant organisations and programmes as appropriate (CEP XIX Final Report para. 52). * Since the workshop, SCAR has continued to provide regular ACCE updates to the CEP:   + [ATCM XXXIX/IP035](https://documents.ats.aq/ATCM39/ip/ATCM39_ip035_e.doc) *Antarctic Climate Change and the Environment 2016 Update*   + [ATCM XL/IP80rev.1](https://documents.ats.aq/ATCM40/ip/ATCM40_ip080_rev1_e.doc) *Antarctic Climate Change and the Environment – 2017 Update*   + [ATCM XLII/IP136](https://documents.ats.aq/ATCM42/ip/ATCM42_ip136_e.doc) *Antarctic Climate Change and the Environment – 2019 Update* * At CEP XXIII, SCAR also provided:   + [ATCM XLIII/WP 17](https://documents.ats.aq/ATCM43/wp/ATCM43_wp017_e.docx) *Antarctic Southern Ocean Climate Change in a Global Context* * [ATCM XLIII/WP36](https://documents.ats.aq/ATCM43/wp/ATCM43_wp036_e.docx) *Ocean Acidification in the Southern Ocean* |
| 12 | Consider further appropriate development of scientific reference areas with the objective of understanding impacts of climate change, using existing tools available to the CEP and SC-CAMLR. | * One of the objectives of CCAMLR Conservation Measure 91-04 (2011) *General Framework for the establishment of CCAMLR Marine Protected Areas* is the establishment of scientific reference areas for monitoring natural variability and long-term change or for monitoring the effects of harvesting and other human activities on Antarctic marine living resources and on the ecosystems of which they form part (CM 91-04 para. 2(iii)). This objective is also reflected in the Conservation Measure that establishes the Ross Sea region Marine Protected Area (CM 91-05). * Conservation Measure 24-04 allows for the designation of newly exposed marine areas following the retreat or collapse of an ice shelf, glacier or ice tongue in the Antarctic Peninsula Region as Special Areas for Scientific Study (SASS). Members are encouraged to undertake scientific research in SASSs following ice-shelf collapse or retreat, particularly in order to understand the ecosystem processes in relation to climate change. The CM allows for a two-stage designation and to date, both the Larsen Ice Shelf (2017) and Pine Island Glacier (2019) have been designated as Stage 1 SASSs. | * The [CEP five-year work plan](https://documents.ats.aq/atcm43/ww/atcm43_ww003_e.pdf) identifies a related science, knowledge and information needs under the priority issues ‘Overview of the Protected Area System’ and ‘Climate Change Implications for the Environment’;   + Continue to develop biogeographic tools to provide a sound basis for informing Antarctic area protection and management at regional and continental scales in light of climate change, including identifying the need to set aside reference areas for future research and identifying areas resilient to climate change * The [CCRWP adopted at CEP XIX (2016)](https://documents.ats.aq/ATCM39/att/atcm39_att072_e.doc) identifies related actions:   + Continue to develop biogeographic tools (EDA and ACBR) to provide a sound basis for informing Antarctic area protection and management at regional and continental scales in light of climate change, including identifying the need to set aside reference areas for future research and identifying areas resilient to climate change * Continue to work with CCAMLR to identify the process for defining reference areas for future research |
| 13 | Promote ongoing work led by Argentina, Chile, and including other Members, on the development of MPAs in planning Domain 1 (Antarctic Peninsula), acknowledging particular relevance to climate change research and the establishment of reference areas in this region of rapid change | * In 2017, SC-CAMLR XXXVI agreed to establish the Domain 1 Expert Group proposed by Argentina and Chile (SC-CAMLR XXXVI para. 5.34) to progress work related to D1MPA; membership would include interested Members and experts from the NGO community. * Discussions in 2017 and 2018 (SC-CAMLR XXXVI SC-CAMLR XXXVI para. 5.29 and SC-CAMLR- XXXVII (para. 6.57) noted that outstanding issues included consideration of how references area can be used to study the effects of climate change. | * CEP XIX noted that Recommendations 13 to 15 relate to ongoing work by SC-CAMLR, and welcomed further updates on this work as it develops (CEP XIX Final Report para. 53). |
| 14 | Acknowledge that data from MPA planning processes will integrate and make available a significant amount of information that will improve decision-making and be relevant to the work of the CEP and SC-CAMLR on a range of other topics. | * The *Report of the Meeting of the Workshop on Spatial Management (Cambridge, UK, 2 to 6 July 2018)* (SC-CAMLR-XXXVII/08) includes discussions related to the establishment of reference areas in several proposed MPAs, as well as general discussion on establishment of references areas for specific purposes, such as fisheries related research, which can be useful for decision-making. * Research and Monitoring plans are required for MPAs (CM 91-04 (2011) *General Framework for the establishment of CCAMLR Marine Protected Areas*) and will result in data collections that will have application to many topics, including biodiversity, climate change, predator-prey dynamics, etc. * Data layers used for planning extant and proposed CCAMLR MPAs are generally available on the Internet. Some layers are available via a CCAMLR website (<https://cmir.ccamlr.org/>), and others are available on sites external to CCAMLR (e.g., <https://doi.org/10.1594/PANGAEA.899595>, <https://doi.org/10.1594/PANGAEA.899667>, <https://doi.org/10.1594/PANGAEA.899645>, <https://doi.org/10.1594/PANGAEA.899591>, <https://doi.org/10.1594/PANGAEA.899520>, and <https://doi.org/10.1594/PANGAEA.899619>). | * At CEP XIX (2016) the Committee acknowledged that the process of collecting data for the MPA in Domain 1 would be beneficial for broader conservation management (CEP XIX Final Report para. 198). |
| 15 | Recognize that research and monitoring within CCAMLR and ATCM protected area systems will benefit from coordinated and integrated programmes within the respective regions, including the wider community of interested scientists (SCAR, ICED, SOOS, and/or national programmes). | * The 2017 *Report of the Co-conveners of the CCAMLR Workshop on the Ross Sea region Marine Protected Area Research and Monitoring Plan* (SC-CAMLR-XXXVI/07) provided background to the proposed Ross Sea region Research and Monitoring Plan (SC-CAMLR-XXXVI/20). Participants at the workshop included representatives from SCAR, CEP, IUCN and other interested organizations. * In 2017, SC-CAMLR XXXVI (SC-CAMLR XXXVI para. 5.45) endorsed the Ross Sea region MPA Research and Monitoring Plan. * The *Report of the Meeting of the Workshop on Spatial Management (Cambridge, UK, 2 to 6 July 2018*) (SC-CAMLR-XXXVII/08) noted examples of existing interactions with scientific programs such as SOOS, ICED, SCAR (para 6.14) | * At CEP XXII (2019), following discussion of the outcomes of the Joint SCAR/CEP Workshop on Further Developing the Antarctic Protected Area System, the CEP Encouraged Members, SCAR and other Observers and Experts to prioritise and support further research that will build on the existing body of scientific evidence to support the further development of the protected area system in accordance with Article 3.2 of Annex V (CEP XXII Final Report para. 182). |
| 16 | Encourage further and regular meetings between SC-CAMLR and the CEP, at least once every 5 years. Also encourage more frequent communication on topics of mutual interest in the intervening period before the next joint meeting, including via online forums as appropriate. | * SC-CAMLR-XXXV welcomed the *Convener’s Report of the Joint CEP/SC-CAMLR Workshop on Climate Change and Monitoring* (United Kingdom and the USA) and endorsed all the workshop’s recommendations (SC-CAMLR XXXV para. 8.6) | * CEP XIX (2016) agreed on the importance of future joint meetings and intersessional communication between the CEP and SC-CAMLR, and agreed that further workshops should be held, at least once every five years (CEP XIX Final Report para. 54-55). * The [CEP five-year work plan](https://documents.ats.aq/atcm43/ww/atcm43_ww003_e.pdf) includes actions related to planning for and holding five-yearly joint workshops. At CEP XXIII (2021) there was discussion of a proposal to hold a further joint workshop, but due to the virtual nature of the meeting, there was not enough time to fully consider the proposal (CEP XXIII Final Report para. 139). |