Report of the CEP Subsidiary Group on Climate Change Response (SGCCR) 2021-2022

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**Working Paper submitted by the United Kingdom as Convenor of the SGCCR**

***Summary***

This Working Paper details the work and outputs of the SGCCR during the period July 2021 to April 2022. The SGCCR has made progress in facilitating the coordination and communication of the CCRWP and in its implementation. The SGCCR recommends that the CEP adopts the draft updated CCRWP (2022) (found at Attachment A) and uses it to replace the current version of the CCRWP (2016).

***Background***

The Climate Change Response Work Programme (CCRWP) was adopted through Resolution 4 (2015), and the ATCM recommended that Governments:

1. encourage the CEP to begin implementing the CCRWP as a matter of priority, and provide annual progress reports to the Antarctic Treaty Consultative Meeting on its implementation;
2. request the CEP to keep the CCRWP under regular review, with the input of the Scientific Committee on Antarctic Research (SCAR) and the Council of Managers of National Antarctic Programs (COMNAP) on scientific and practical matters respectively; and
3. give consideration, within their own national scientific funding systems and national Antarctic research programmes, as to how they can address the science needs and actions identified in the CEP’s CCRWP.

Following discussions within 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 by:

1. Facilitating the 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;
2. Drafting proposed annual updates of the CCRWP, including management, research or monitoring actions;
3. Drafting annual progress reports on the implementation of the CCRWP for the CEP to draw on in their updates to the ATCM.

In addition to the agreed Terms of Reference, CEP XX tasked the SGCCR to develop operating mechanisms to support good participation and efficient handling of work (CEP XX Final Report, para 74). It should also be noted that ‘Climate Change Implications for the Environment’ is a Priority 1 issue on the CEP Five-Year Work Plan, with ‘Implementing the CCRWP’ a key action.

At CEP XXIII, following a review of the SGCCR, the Committee agreed that the work of the SGCCR should continue in the future under its current Terms of Reference (CEP XXIII Final Report para. 35).

***SGCCR operation during the 2021-22 intersessional period***

The SGCCR currently consists of 22 representatives from 17 CEP Member countries (Argentina, Australia, Belgium, Chile, China, France, Germany, India, New Zealand, Norway, Portugal, Romania, South Africa, Spain, the United Kingdom, the United States and Uruguay) and five Observer organisations (ASOC, COMNAP, IAATO, SCAR and WMO). The SGCCR was convened by one of the CEP Vice-Chairs (Dr. Kevin Hughes). The SGCCR maintains flexibility regarding membership and encourages new members.

In recent years, following an initial announcement of the commencement of SGCCR activities on the CEP Forum, which included details of how CEP Members may get involved, work has been undertaken via e-mail. However, since November 2021, the work of the SGCCR has been undertaken through the CEP Forum to facilitate the broader communication of SGCCR Members perspectives and ideas to all of the Committee.

An informal physical meeting of the SGCCR is scheduled for Sunday 22 May 2022 in Berlin, the day before the commencement of CEP XXIV. Dr. Hughes will stand down as convenor of the SGCCR at CEP XXIV and, subject to the agreement of the Committee, will be replaced by the new CEP Vice-Chair elected at that meeting.

***ToR 1. Coordination and communication of the CCRWP***

**Updates**

In order to fulfill the SGCCR’s first Term of Reference, SGCCR Members and Observers were asked to: (i) highlight actions identified for the coming year(s) and (ii) provide updates with regard to planned activities of relevance to the CCRWP. The information detailed below was obtained following direct communication with SGCCR Members during the intersessional period, as well as in response to a formal request for information on the CEP Forum.

1. *SCAR*

SCAR has been active across several areas that are of direct relevance to the work of the SGCCR:

1. ACCE update

As anticipated, SCAR will deliver a Decadal Synopsis Update to the Antarctic Climate Change and the Environment (ACCE) report to the CEP and ATCM this year (ATCM XLIV WP30. The data within this report will likely support the work of the SGCCR.

1. Mapping exercise

Following intersessional discussion within the SGCCR, SCAR agreed to revisit and update as necessary the earlier exercise to map SCAR affiliated research to the CCRWP (as presented in [ATCM XL/IP069](https://documents.ats.aq/ATCM40/ip/ATCM40_ip069_e.doc) and [attachment](https://documents.ats.aq/ATCM40/att/ATCM40_att041_e.pdf)). SCAR has subsequently reported that it is undertaking a review of recent, current and developing research aligned to the climate change-related science needs identified in the CCRWP and the CEP 5-Year Work Plan. SCAR intend to provide this information to CEP XXIV (ATCM XLIV IP81), and hope that it will be useful in identifying specific areas where SCAR groups can contribute to addressing these needs.

1. SCAR Antarctic Environments Portal

The SGCCR Convenor had a virtual meeting with the outgoing and incoming editors of the SCAR Antarctic Environments Portal (Dr Neil Gilbert and Dr Keith Reid, respectively) to discuss the provision of climate change-relevant science information to the CEP. In accordance with the [mechanism](https://documents.ats.aq/ATCM43/att/ATCM43_att055_e.docx) agreed with SCAR, the SGCCR reviewed the Information Summaries contained within the SCAR Antarctic Environments Portal ([www.environments.aq](http://www.environments.aq)). Suggestions provided by SGCCR Members regarding future Portal information summaries have been provided to the Chief Officer of the SCAR Standing Committee on the Antarctic Treaty System (Dr Susie Grant) for communication to the Portal Editors. Specifically, SGCCR Members identified some older Portal summaries on topics of recent interest to the CEP that it would be useful to update, e.g.:

* [Climate change as an emerging threat to emperor penguins](https://environments.aq/publications/climate-change-as-an-emerging-threat-to-emperor-penguins/); and
* [The introduction of non-native species to Antarctica](https://environments.aq/publications/the-introduction-of-non-native-species-to-antarctica/).

New Portal summary topics for potential development might include:

* Climate change implications for the transport of contaminants from contaminated sites to terrestrial and nearshore marine areas;
* Implication of climate change for human activities and infrastructure in Antarctic environments;
* Ocean acidification;
* The likely impact of climate change on the transfer, degradation and transformation of plastics in the Southern Ocean; and
* Existing and potential impacts of changes in Southern Ocean oceanography (e.g., changes in the position of oceanic fronts) on human and biological systems.

SCAR is thanked for its continuing provision of policy-ready scientific information and Dr Neil Gilbert is thanked for his editorial work with the Portal over recent years.

1. *SC-CAMLR*

The SGCCR tasked the SGCCR Convenor with contacting the Chair of SC-CAMLR (Dr Dirk Welsford) concerning how climate change is addressed within CCAMLR. Dr Welsford reported that, under the auspices of the Commission, CCAMLR established a Climate Change Intersessional Contact Group, and SC-CAMLR adopted the Climate Change Response Workplan the ICG developed in 2018. One outcome of this was that the impacts of climate change on Antarctic Marine Living Resources are now regularly discussed by SC-CAMLR and its working groups. Disruption, caused by the COVID pandemic, reduced the opportunity for discussion of many issues. Consequently, at the 2020 SC-CAMLR meeting there was less than a full day of plenary discussions, and it was not possible to adopt any consensus text on climate change at that meeting. In 2021, at the 40th Meeting of SC-CAMLR, climate change issues were discussed, and in particular the issue of the retreat of the Pine Island Glacier and the establishment of a ‘Climate change impacts and CCAMLR’ e-group. At the SC-CAMLR symposium in February 2022, climate change, amongst other issues, was discussed in relation to the SC-CAMLR 5-year strategic workplan. Discussions at that symposium will be refined during the year for consideration for adoption at SC-CAMLR-41 in late 2022.

1. *COMNAP*

The SGCCR tasked the SGCCR Convenor with contacting COMNAP concerning opportunities and capacity for its engagement with the work of the Subsidiary Group. Productive discussions were held during a virtual meeting with the Executive Secretary of COMNAP, Dr. Michelle Rogan-Finnemore, where COMNAP’s support for the overall work of the Committee was reiterated and opportunities for future exchange of information on CCRWP practical matters, such as vulnerability of Antarctic infrastructure to a changing Antarctica, were discussed.

**Other work of the SGCCR**

*Science funding agencies*

SGCCR Members noted the action in the [ATCM Multi-year Strategic work plan](https://documents.ats.aq/recatt/att701_e.pdf) to ‘*Share and discuss strategic science priorities in order to identify and pursue opportunities for collaboration as well as capacity building science, particularly in relation to climate change*” (item 3). Consequently, the SGCCR tasked the SGCCR Convenor to discuss with the CEP Chair the possibility of engaging with the ATCM to promote the inclusion of science needs, including those relating to climate change issues, into national science strategies and their communication to national research funding agencies. Following discussions, the SGCCR Convenor and CEP Chair have developed a paper for the Committee’s consideration on this issue and the communication of policymakers’ science needs (see ATCM XLIV WP21).

*Subsidiary Group webpages on the Antarctic Treaty Secretariat website*

The SGCCR has engaged in discussions on the production of webpages describing the role and work of the Subsidiary Group. At present, there are no webpages on the ATS website dedicated to either the SGCCR or the Subsidiary Group on Management Plans (SGMP). It is likely that both Subsidiary Groups could benefit from further action on this issue. The provision of webpages about the SGCCR could make it easier for CEP Members to access information relevant to the work of the Subsidiary Group and for new CEP Members to gain an understanding of how they might engage and participate in the work of the SGCCR. Following consultation, the CEP Bureau, which includes the CEP Chair and the Convenors of the SGMP and the SGCCR, developed a Working Paper on this issue, which will be submitted to CEP XXIV [see ATCM XLIV WP7).

***ToR 2. Updating the CCRWP***

At CEP XXII, the SGCCR proposed a new format for the CCRWP (ATCMXLII WP36). The Committee agreed that the SGCCR should apply the suggested new format to the CCRWP. At CEP XXIII, the Committee agreed that the identified CCRWP science needs should be amalgamated into the existing list of CEP science needs (CEP XXIII Final Report para. 41).

At CEP XXIII a draft updated and reformatted CCRWP was presented to the Committee for its consideration. At the meeting, one Member provided comments on the draft updated CCRWP which, due to time constraints, could not be addressed during the meeting. Further discussion by the Subsidiary Group during the 2021-22 intersessional period resulted in the production of an updated CCRWP which is provided at Attachment A to this report.

**Recommendation: It is recommended that the CEP adopts the draft updated CCRWP (2022) and uses it to replace the current version of the CCRWP (2016).**

***ToR 3. Implementation of the CCRWP***

During the early stages of the intersessional period, the SGCCR undertook an analysis of CCRWP implementation in order to identify areas where the efforts of the SGCCR might be best directed. A more comprehensive review of progress in the implementation of the 34 Actions of the CCRWP is provided in Attachment B. A summary is provided in the Table below:

Table 1. Summary of progress in the delivery of the CCRWP

|  |  |
| --- | --- |
| **No. of Actions** | **Level of progress** |
| 1 | Work not initiated |
| 22 | Work to deliver the Action initiated, either by CEP Subsidiary Groups, Intersessional Contact Groups or by individual or groups of Parties or Observers |
| 11 | On-going research regularly delivered to the Committee, major deliverable produced\*, or Action completed. (\*To enable continuous improvement, further work may still be required) |

During the intersessional period, the SGCCR commenced work to deliver several Actions (see below), while other Actions have been progressed through other means by CEP Members and Observers. For example, science bodies, such as SCAR and WMO have provided scientific information, which is relevant to Actions that focus on research.

**Climate change and marine non-native species**

Marine non-native species present an increasing threat to Antarctic marine ecosystems, particularly under a changing climate. A group of SGCCR Members have commenced work to review the guidelines and agreements of the International Maritime Organisation (IMO) and Antarctic Treaty System (ATS) concerning ship biofouling and ballast water management to check adequacy for the Southern Ocean and vessels moving from region to region. A report on progress and proposed next steps is provided at ATCM XLIV IP49.

**Climate change and area protection**

1. *Joint SCAR/CEP Workshop on Further Developing the Antarctic Protected System*

Following the 2019 Joint SCAR/CEP Workshop on Further Developing the Antarctic Protected System, and the agreement of associated CEP recommendations, research into the application of systematic conservation planning approaches has advanced. This work is being led by small teams at the Australian Antarctic Division, Monash University and through the new Special Research Initiative - *Securing Antarctica’s Environmental Future*. The primary objective of this work is to investigate the utility of the systematic conservation planning process in Antarctica, and to generate a series of example scenarios of what a series of protected areas might look like under Article 3.2 of Annex V, by running an optimisation process with a range of input values/settings. A report on progress is to be provided at ATCM XLIV IP47.

1. *SCAR and IAATO project*

SCAR and IAATO have continued to work on a project to undertake systematic conservation planning for the Antarctic Peninsula region (see ATCM XLII IP24) and hope to provide an update within their respective annual reports to ATCM XLIV.

1. *Review and revision of management tools*

Issue 2 of the CCRWP, i.e., ‘Change to the terrestrial (including aquatic) biotic and abiotic environment due to climate change’, includes the Action to: ‘Review and revise where necessary existing management tools to consider if they aﬀord the best practical adaptation measure to areas at risk from climate change’. It is also noted that the CEP Five-Year Work Plan has, under the issue/environmental pressure ‘Processing new and revised protected/managed area management plans’, the action to update existing guidelines. The SGMP and SGCCR Convenors discussed options to support a programme of work to develop guidance for addressing climate change in the process of identifying and managing protected areas, including identifying within which Subsidiary Group this work should reside. It was proposed that this work could be introduced through the SGMP Report to CEP (2021-22) as an additional task under SGMP Term of Reference #5 ‘*Develop and suggest procedures that would assist in achieving a long-term goal aiming at ensuring that all ASPA and ASMA management plans contain adequate content, and are clear, consistent and likely to be effective*’, with the work considered and potentially undertaken during the intersessional period (2022-23). For further information, see the SGMP report (ATCM XLIV WP8).

**Climate change and the marine environment**

Climate change was agreed at the first CEP/SC-CAMLR workshop as one of the five topics of overlapping interest between the two Committees (i.e., (i) climate change and the Antarctic marine environment; (ii) biodiversity and non-native species in the Antarctic marine environment; (iii) Antarctic species requiring special protection; (iv) spatial marine management and protected areas; and (v) ecosystem and environmental monitoring). While both CEP and SC-CAMLR consider climate change issues in their work, further opportunities for engagement between the two Committees on climate change and related issues might prove helpful. As reflected in the CEP Five-year Work Plan, the CEP members agreed to plan for a five-yearly joint SC-CAMLR/CEP workshop during 2021/22 intersessional workshop. It was considered useful to first review the level of progress in the implementation of the Recommendations detailed in the 2016 Workshop Report, to inform a future joint workshop. Under the auspices of the SGCCR, Argentina, Australia, France and the United States have commenced this work and have reported the outcomes in ATCMXLIV WP16.

**Climate change and heritage values**

Several SGCCR Members have commenced the planning of work on the impact of climate change on heritage values in Antarctica, including on Antarctic Specially Protected Areas (ASPAs) protecting historic values and Historic Sites and Monuments (HSMs). One proposal is for the development of a climate change risk assessment tool to provide information on the potential impacts of climate change on heritage sites. More information is provided in ATCM XLIV WP26.

***Conclusions***

The SGCCR has continue to work toward delivering its Terms of Reference. It has taken actions to facilitate the coordination and communication of the CCRWP, provided a draft updated CCRWP for the Committee’s consideration and provided an update on the implementation of the CCRWP. The SGCCR is now moving from a phase of developing operating mechanisms that support good participation and efficient handling of work, to a phase more focused on CCRWP implementation. The growing membership of the SGCCR reflects the importance of the issue of climate change in the Committee’s work. Further participation in the work of the SGCCR by CEP Members and Observers is encouraged.

***Recommendation***

The SGCCR recommends that the CEP adopts the draft updated CCRWP (2022) (found at Attachment A) and uses it to replace the current version of the CCRWP (2016).