Report of the Subsidiary Group on Climate Change Response (SGCCR)   
2019-2021

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**Working Paper submitted by the United Kingdom on behalf of the SGCCR**

***Summary***

This Working Paper details the work and outputs of the SGCCR during the period July 2019 to April 2021.

The SGCCR recommends that the CEP considers the following recommendations:

1. The CEP is asked to endorse the updated and reformatted draft CCRWP (2021) and use it to replace the current version of the CCRWP (2015) (Attachment A)
2. The CEP is asked to endorse the addition of the identified CCRWP science needs to those of the CEP 5-Year Work Plan (Attachment B)
3. The SGCCR asks the Committee to recommend to the ATCM that the Antarctic Treaty Secretariat provide support for the development of webpages relevant to the communication of the CCRWP, including translation of CCRWP presentations, in collaboration with the SGCCR.
4. Acknowledging the desire of the CEP to review the effectiveness of the SGCCR since its establishment, the SGCCR recommends that the CEP considers the work undertaken to date by the SGCCR and endorses the continuation of its work under its current Terms of Reference.

***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.

***SGCCR operation during the 2019-21 intersessional period***

Due to the cancellation of the CEP and ATCM meeting in Helsinki, Finland, in 2020, the current report covers the work and outputs of the SGCCR over the two-year period July 2019 to April 2021.

The SGCCR currently consists of 17 members from 13 CEP member states (Argentina, Australia, Belgium, France, Germany, New Zealand, Norway, Romania, South Africa, Spain, UK, USA and Uruguay) and four organizations (ASOC, IAATO, SCAR and WMO). The SGCCR is currently convened by one of the CEP vice-chairs (Dr. Kevin Hughes). The SGCCR maintains flexibility regarding membership and welcomes new members.

The work of the SGCCR is undertaken predominantly via e-mail. Key documents developed by the SGCCR are posted on the SGCCR page on the CEP Discussion Forum and are therefore accessible to all CEP Members and Observers.

Until recently, the SGCCR has generally held its meetings, in physical format, associated with the usually annual CEP meeting. However, due to the possible movement of CEP XXIII to a virtual format, the SGCCR held a virtual informal meeting on 13th April 2021.

***CCRWP reformatting and updating***

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 work programme. The SGCCR has now completed this task (see **Attachment A**). In addition, new graphics have been developed to help communicate the different issue identified within the CCRWP (Figure 1).

Diagrama

Descripción generada automáticamente

Figure 1. New graphic developed to help communicate the main issues identified within the CCRWP

Other general changes, undertaken as the reformatting was applied across the identified CCRWP issues, included:

* the addition of a brief introduction to the CCRWP
* the amalgamation of the issue ‘Ecosystem change due to ocean acidification’ into the issue ‘Change to marine near-shore abiotic and biotic environment due to climate change’
* the removal of the identified science needs to a separate document (see later) and amalgamation of individual Tasks under each Actions section, to simplify the layout and reduce complexity.

In accordance with its Terms of Reference, the SGCCR has also updated the CCRWP.

* The CCRWP has been revised to ensure content duplication with the CEP 5-Year Work Plan is minimised.
* Actions within each identified ‘Gap/need’ have been prioritised on a scale of 1 to 3, and preliminary target dates for delivery have been added.
* A new issue has been identified entitled ‘Emerging issues’, which includes the need to (i) consider the impacts of climate change on plastic pollution entering the Southern Ocean and (ii) understand the potential expansion of human footprint in Antarctica due to climate change and any subsequent impacts upon Antarctic values.

**Recommendation: The CEP is asked to endorse the updated and reformatted draft CCRWP (2021) and use it to replace the current version of the CCRWP (2015)**

***CCRWP science needs***

As stated earlier, the CCRWP science needs were removed from the CCRWP, and instead combined with the ‘Science knowledge and information needs’ identified in the current CEP 5-Year Work Plan (2019) (see: **Attachment B**). This was done to help facilitate communication of CEP science needs to researchers (for example, in SCAR, WMO and other research organisations) in a succinct and easily understood manner. Care was taken to try to minimise duplication and consolidate science needs within the final document.

**Recommendation: The CEP is asked to endorse the addition of the identified CCRWP science needs to those of the CEP 5-Year Work Plan (Attachment B)**

***Mechanism for CEP to receive best available science to inform its advice to the ATCM***

A great deal of consideration was given by the SGCCR into the most effective mechanism by which the best available science could most readily be made available to the CEP and ATCM to inform implementation of the CCRWP. It was agreed that the SGCCR itself was not best placed to synthesis available science, but rather other science bodies might be better able to perform this task, including for example, the World Meteorological Office (WMO), SCAR and some of its associated groups including Integrating Climate and Ecosystem Dynamics (ICED), the Southern Ocean Observing System (SOOS) and the Antarctic Nearshore and Terrestrial Observing System (ANTOS).

The Scientific Committee on Antarctic Research (SCAR), in particular, is well placed to provide the CEP and ATCM with independent scientific advice, and has several established mechanisms to do so, including via the SCAR Lecture and policy papers to the CEP/ATCM. More recently, SCAR has taken over the management of the Antarctic Environments Portal ([www.environments.aq](http://www.environments.aq)), which was launched in 2015 and endorsed by the ATCM through Resolution 3 (2015). The Antarctic Environments Portal links Antarctic science and Antarctic policy, by providing easy access to information on a range of scientific issues relevant to Antarctic environmental governance and management. All scientific information available through the Portal is prepared by experts and goes through a rigorous peer-review and editorial process before publication. The Portal can act as a means of supporting SCAR’s role in providing independent and objective scientific advice to the Antarctic Treaty Consultative Meetings and other bodies. The Portal already includes state-of-knowledge reports on non-native species (Issue 1 of the draft CCRWP), the vulnerability of Southern Ocean biota to climate change (Issue 3 of the draft CCRWP) and articles on key species (e.g., penguins and seals; Issue 4 of the draft CCRWP).

During the intersessional period, a process was developed whereby the SGCCR could request Information Summaries relevant to the implementation of the CCRWP from relevant science bodies (see **Attachment C**). The process diagram describes provision of information via (i) the SCAR Antarctic Environments Portal and (ii) other science bodies. Close collaborative working by the SGCCR and SCAR has shown that the Portal could support the SGCCR by acting as a central repository of information of direct relevance to the CCRWP. Furthermore, SCAR could commission and publish new Information Summaries and other knowledge resources as required by the SGCCR. The SGCCR would, of course, be open to receiving and considering relevant scientific information that has not specifically been requested by the SGCCR, and scientific information which might take a form other than an Information Summary, as commonly applied for the Antarctic Environments Portal.

***Communication***

CCRWP presentation

During earlier discussions (reported in ATCM XLII WP36), the SGCCR identified the need to communicate the content of the CCRWP and work of the SGCCR to a wider audience. The SGCCR saw merit in the production of a PowerPoint presentation to fulfil this need. However, given that the draft updated CCRWP has not received endorsement by the CEP and ATCM, the SGCCR has produced two similar PowerPoint presentation, one referencing the current (2015) version of the CCRWP (**Attachment D**) and the other referencing the draft updated and reformatted CCRWP (2021) (**Attachment E**). Both versions of the presentation briefly describe climate change in Antarctica, the CEP’s engagement with climate change issues, the CCRWP, the SGCCR and the role of science in supporting the work of the CEP on climate change issues.

CCRWP webpages on the ATS website

To further communicate the CCRWP and the work of the SGCCR, the group has commenced the preparation of potentially useful content for the ATS webpage. New CCRWP webpages would allow information relevant to the CCRWP to be held in one place, including the CCRWP, details of the SGCCR (e.g., Terms of Reference, working methods, process for attaining membership), communication resources (e.g., CCRWP presentations) and links to relevant information sources.

**Recommendation: The SGCCR asks the Committee to recommend to the ATCM that the Antarctic Treaty Secretariat provide support for the development of webpages relevant to the communication of the CCRWP, including translation of CCRWP presentations, in collaboration with the SGCCR.**

***Review of the SGCCR***

The ATCM approved the establishment of the SGCCR through Decision 1 (2017). The Framework and Terms of Reference for the SGCCR were set out in Appendix 2 to the Final Report of CEP XX: *Subsidiary Group on Climate Change Response – Framework.* Within Appendix 2,CEP XX noted its intention to review the effectiveness of the SGCCR after 3 years. The review of the SGCCR was due to occur in 2020; however, this was not possible due to the cancellation of the meeting.

To help facilitate the SGCCR review process at CEP XXIII, we ask the Committee to consider the outputs and developments listed in ATCM XLI IP46, ATCM XLII WP36 and in this Working Paper, including the Attachments.

Now that many of the practical elements of operating the SGCCR have been developed (communication mechanisms, process for provision of best available science, etc.), the SGCCR Member are keen to continue their work with a particular focussing on facilitating the implementation of the CCRWP. A longer-term work plan for the SGCCR is appended (**Attachment F**).

**Recommendation: Acknowledging the desire of the CEP to review the effectiveness of the SGCCR since its establishment, the SGCCR recommends that the CEP considers the work undertaken to date by the SGCCR and endorses the continuation of its work under its current Terms of Reference.**

***Recommendations***

The SGCCR requests that the CEP considers the following recommendations:

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