

CLIMATE CHANGE

8.1 The Scientific Committee thanked the SCAR Observer for his presentation on the Antarctic Climate Change and the Environment (ACCE) report. The Scientific Committee recognised that this was an authoritative report that has clear implications for the work of the Scientific Committee and its working groups, as well as for wider global climate negotiations, e.g. for the United Nations Framework Convention on Climate Change (UNFCCC). The Scientific Committee noted that the findings of the report were far-reaching, with some of particular relevance to CCAMLR, including:

- The ozone hole has delayed the impact of greenhouse gas increases on the climate of the continent. An important exception is the Antarctic Peninsula, which has seen rapid summer warming. This warming is caused by stronger westerly winds bringing warm wet air into the region from the ocean.
- The Antarctic Circumpolar Current has warmed faster than the global ocean as a whole.
- Regional sea-ice has decreased west of the Antarctic Peninsula due to changes in local atmospheric circulation. This is thought to have caused changes in food webs on the northern Antarctic Peninsula that have cascaded to upper trophic level predators, e.g. to Adélie penguins.
- Over this century the ozone hole is expected to heal, allowing the full effects of greenhouse gas increases to be felt across the Antarctic.
- Climate variability in the polar regions is larger than in other parts of the world, yet these remote regions are sparsely monitored. These areas need to be monitored in much greater detail in order to detect change, to improve understanding of the processes at work, and to distinguish between natural climate variability and variability caused by human influences.

8.2 The Scientific Committee requested that the Commission take note of the ACCE report and its findings.

8.3 SC-CAMLR-XXIX/BG/8 provided a report from the CCAMLR Science Officer following his attendance at the Antarctic Treaty Meeting of Experts on the impacts of climate change for management and governance of the Antarctic region (ATME). The meeting was hosted by Norway (Svolvær, 7 to 9 April 2010) and jointly chaired with the UK.

8.4 The primary focus of the ATME was to seek ways to understand the effects of climate change in Antarctica and to discuss ways to mitigate such effects where necessary. The meeting reached agreement on 30 recommendations of which the following are of particular relevance to the Scientific Committee:

- Recommendation 19, ‘that the CEP consider developing a climate change response work program’;

- Recommendation 26, that the CEP ‘coordinate with SC-CAMLR, that the CEP consider, and advise the ATCM accordingly, as to means by which automatic interim protection might be afforded to newly exposed areas, such as marine areas exposed through ice-shelf collapse’;
- Recommendation 27, that the ‘CEP and SC-CAMLR be encouraged to ensure that sufficiently frequent biodiversity surveys and adequate monitoring programs are established to provide an understanding of climate-change induced responses in species distribution and abundance’;
- Recommendation 28, that ‘CEP and SC-CAMLR continue to develop means for collecting and sharing data and information on the status and trends of species of interest to both bodies (seals, penguins and seabirds), including the need to cooperate with other expert bodies such as SCAR and ACAP’.

8.5 SC-CAMLR-XXIX/12 presented a working paper previously submitted to ATME and to CEP XIII/ATCM XXXIII which were hosted by Uruguay (Punta del Este, 3 to 14 May 2010). The paper considered the implications of climate change for the Antarctic Protected Areas System.

8.6 The Scientific Committee noted the recommendations made by the authors of the paper, and endorsed by the CEP, in particular:

- Recommendation 1, the need ‘to ensure a more strategic approach to ASPA selection and designation’;
- Recommendation 2, the need to develop ‘a methodology for classifying existing ASPAs continent-wide according to their potential vulnerability to regional climate change’.

8.7 The Scientific Committee also noted other recommendations endorsed by the CEP:

- Recommendation 4, the need to give ‘newly-exposed marine habitats protection following the collapse of ice shelves to allow scientific research to establish baseline information and monitor further change’;
- Recommendation 5, that ‘spatial protection for species that are particularly vulnerable to climate change (e.g. Adélie and emperor penguins) is appropriate to minimise other impacts that might limit their survival in marginal locations’;
- Recommendation 6, the necessity of reviewing ‘the need for further or continued site-protection of species whose abundance or range has increased substantially under climate warming’.

8.8 The Scientific Committee advised the Commission that in the eventuality of such occurrences as described by Recommendations 4 to 6 taking place, advice from the Scientific Committee would be necessary.

8.9 The Scientific Committee noted that the recommendations detailed in SC-CAMLR-XXIX/12 have implications for the development and implementation of an RSMMPA within

the Convention Area and that the consequences of climate change may increase the vulnerability of different ecosystem components necessitating a more precautionary approach in the establishment of an RSMMPA.

8.10 The Scientific Committee agreed that the consequences of climate change have the potential to impact on the work of the Commission and, therefore, there may be utility in developing 'A State of the Environment Report'. The Scientific Committee recognised that this would require coordination and necessitate considerable effort. The Scientific Committee agreed that WG-EMM should consider how such a report might be framed.

8.11 The ASOC Observer introduced CCAMLR-XXIX/BG/19 which highlighted the importance of climate change in the Southern Ocean and encouraged CCAMLR to: (i) coordinate with the CEP to address issues relating to climate change, including monitoring efforts, data collection and area protection; (ii) extend the use of MPA networks; (iii) extend the application of the precautionary approach to include the uncertainties raised by climate change; (iv) strengthen CEMP; and (v) provide leadership in reducing the emissions of greenhouse gases during the course of fishing activities.

8.12 The IUCN Observer expressed concern about the emerging impacts on the Antarctic marine ecosystem of global climate change and ocean acidification. These impacts are exacerbating existing stressors and will become more severe in coming decades.

8.13 IUCN welcomed the efforts of CCAMLR to collaborate with other elements of the ATS, to address the effects of climate change on the Antarctic marine environment and the call to revise existing management tools to assess their continuing suitability in a climate change context (Recommendation 10 of ATME).

8.14 IUCN encouraged the ongoing revision of conservation measures utilising current knowledge about climate change. It also encouraged the use of the precautionary approach in the face of climate change uncertainties.

8.15 IUCN also encouraged CCAMLR to develop a more comprehensive monitoring program collecting data currently not part of CEMP. Monitoring efforts should consider the need to differentiate the effects of fishing from the effects of other human activities and from natural variability, including the designation and use of closed areas for the purposes of scientific study.