Research to inform CEP discussions about further development of the Antarctic protected area system

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**Information Paper submitted by Australia**

Summary

Australian researchers are undertaking work to inform ongoing discussions in the Committee for Environmental Protection (CEP) on further developing the Antarctic protected area system. The work includes using relevant continent-wide scientific datasets and contemporary conservation planning software to develop a suite of example scenarios for how a series of terrestrial protected areas might address the provisions of Article 3.2 of Annex V. Australia will be pleased to keep the Committee updated on this work.

Background

Article 3.2 of Annex V to the Environmental Protocol states that ‘Parties shall seek to identify, within a systematic environmental-geographic framework, and to include in the series of Antarctic Specially Protected Areas’ (ASPAs), areas with specified characteristics and values. In accordance with Article 12(g) of the Protocol, the CEP is responsible for providing advice and formulating recommendations to Parties on ‘the operation and further elaboration of the Antarctic Protected Area system’.

The CEP has regularly expressed its desire to move towards a more systematic and holistic approach to the further development of the Antarctic protected areas system. It has recognised the importance of drawing on the best available scientific information to inform its work, and the important role played by the Scientific Committee on Antarctic Research (SCAR) in providing high quality, independent scientific advice.

To support discussion and collaboration on these matters, SCAR and the CEP held a joint workshop prior to CEP XXII (2019), on Further Developing the Antarctic Protected Area System. A report on the workshop outcomes was provided in [ATCM XLII/WP70](https://documents.ats.aq/ATCM42/wp/ATCM42_wp070_e.doc) and [ATCM XLII/IP165](https://documents.ats.aq/ATCM42/ip/ATCM42_ip165_e.doc).

In its discussion of the workshop outcomes, the Committee 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). The workshop report lists datasets and other scientific information identified during the workshop that might be drawn on to support such work ([Attachment B](https://documents.ats.aq/ATCM42/att/ATCM42_att108_e.doc) to ATCM XLII/IP165).

Outline of the research

Australian researchers are undertaking work intended to inform CEP discussions about further developing the Antarctic protected area system. This work is being undertaken by teams at the Australian Antarctic Division, Monash University, the Queensland University of Technology, and through the new Australian Research Council Special Research Initiative *Securing Antarctica’s Environmental Future*[[1]](#footnote-1).

The research aims to identify a suite of example scenarios for how a series of terrestrial ASPAs might address the provisions of Article 3.2 of Annex V. It involves acquiring and analysing relevant scientific datasets, by using conservation planning software[[2]](#footnote-2) to run optimisation processes with a variety of input settings.

Continent-wide datasets being considered for use in the analyses include:

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| Antarctic Specially Protected Areas | Wauchope et al. (2019) |
| Antarctic Conservation Biogeographic Regions | Terauds et al. (2012); Terauds & Lee (2016) |
| Important Bird Areas | Harris et al. (2015) |
| Ice-free areas | Antarctic Digital Database; Lee et al. (2017) |
| Lakes and streams | Antarctic Digital Database |
| Human footprint | Brooks et al. (2019) |
| Wilderness and inviolate layers | Derived from Leihy et al. (2020) |
| Type Locality data | Phillips et al. (2022) |
| Geothermal hotspots | Fraser et al. (2014) |
| Biodiversity groups represented by species distribution modelling data | Terauds et al. (in preparation 1) |
| Biodiversity groups represented by occurrence records | Terauds et al. (in preparation 2) |
| Ecosystem typologies, representing ‘habitats’ delineated by a suite of environmental parameters | Toth et al. (in preparation) |

The scenarios generated through the analysis will provide insight into the influence of specific spatial layers (and the values they represent) on the distribution and extent of potential future protected areas.

Australia will be pleased to keep interested Members updated on this work and, as appropriate, will bring forward further information to future CEP meetings.

References

Antarctic Digital Database (<https://www.add.scar.org/>)

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Terauds et al (in preparation 1) Drivers of biodiversity in Antarctica

Terauds et al (in preparation 2) Antarctic Biodiversity Database

Wauchope, H. S., Shaw, J. D., & Terauds, A. (2019). A snapshot of biodiversity protection in Antarctica. *Nature Communications* 10, 1-6.

1. See <https://arcsaef.com/> [↑](#footnote-ref-1)
2. The conservation planning software being used for this work is open source and known as prioritizr. It is designed to help build and solve conservation planning problems, by formulating a mathematical optimisation problem and then solving it to generate a solution. In this case, prioritizr is being used to identify possible approaches to developing a series of ASPAs that address the provisions of Article 3.2 of Annex V. Further information about prioritizr is available at: <https://prioritizr.net/>. [↑](#footnote-ref-2)