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## **Antarctic biogeography revisited: updating the Antarctic Conservation Biogeographic Regions**



# Antarctic biogeography revisited: updating the Antarctic Conservation Biogeographic Regions

Information Paper submitted by Australia, New Zealand, SCAR

## Summary

This paper summarises the attached publication by Terauds and Lee (2016), which presents a revised and extended analyses of the spatial distribution of Antarctic terrestrial biodiversity. The revision incorporated the most recent spatial data representing Antarctic ice-free areas, and identified an additional biologically distinct (16<sup>th</sup>) Antarctic Conservation Biogeographic Region (ACBR). Summary statistics generated by Terauds and Lee (2016) for the updated ACBRs (ACBRs Version 2) set of bioregions are reproduced.

## Background

At CEP XV (2012) Australia, New Zealand and SCAR presented WP 23 Rev.1 *Antarctic Conservation Biogeographic Regions*, which introduced the results of analyses undertaken by Terauds et al. (2012) to identify large-scale biologically distinct ice-free regions encompassing the Antarctic continent and close-lying islands within the Antarctic Treaty area. The Committee agreed that the resulting 15 Antarctic Conservation Biogeographic Regions (ACBRs) represented the best classification of Antarctic terrestrial biodiversity based on data available from the SCAR Biodiversity Database at that time. The Committee also recognised the relevance of the ACBRs for the identification of ASPAs within a systematic environmental-geographic framework, and to work to address non-native species risks, in particular the risk of transfer of species between locations in Antarctica. The ATCM welcomed the ACBRs through Resolution 6 (2012).

## Update to the Antarctic Conservation Biogeographic Regions

In the attached publication *Antarctic biogeography revisited: updating the Antarctic Conservation Biogeographic Regions*, Terauds and Lee (2016) describe new analyses incorporating updates in the best available representation of Antarctic ice-free areas (SCAR Antarctic Digital Database (ADD) rock outcrop area, Version 7). Not all ice-free area was included in the original delineation, and some larger areas, like the Prince Charles Mountains in East Antarctica, were not clearly delineated by the classification protocols in Terauds et al. (2012). The new analyses, drawing on the updated ice-free data and comparing community structure and composition across all ACBRs, justified the identification of an additional (16<sup>th</sup>) distinct ACBR in the Prince Charles Mountains and surrounding ice-free area. The 16 ACBRs now cover all of the ice-free area as represented by the current ADD rock outcrop layer.

The spatial layer representing the ACBRs Version 2 is publicly available for download from the Australian Antarctic Data Centre at: <http://dx.doi.org/10.4225/15/5729930925224>

Terauds and Lee (2016) also updated the point and polygon spatial layers representing the current suite of Antarctic Specially Protected Areas: <http://dx.doi.org/10.4225/15/572995579CD36>. This update took into account recent designations, revisions, and de-designations endorsed by the CEP since the original ASPA spatial layers were prepared in 2011<sup>1</sup>.

These datasets were used to prepare updated summary statistics for the revised set of ACBRs, which are presented in Table 1 in the attached publication and are reproduced below. With the addition of a 16<sup>th</sup>

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<sup>1</sup> See ATCM XXXV/IP26 *Analyses of the Antarctic protected areas system using spatial information* (Australia).

ACBR, the combined area of the ACBRs increases from 66,815 km<sup>2</sup> to 71,537 km<sup>2</sup>. Four ACBRs contain no ASPAs, and a further five ASPAs contain no ASPAs designated to protect biodiversity. Most human activity (research stations and tourist landing sites) is concentrated in the ACBRs on the Antarctic Peninsula, in particular ACBR 3 North-west Antarctic Peninsula, which also contains the largest number of ASPAs designated to protect biodiversity.

### **References**

Terauds, A., Chown, S., Morgan, F., Peat, H., Watts, D., Keys, H., Convey, P. & Bergstrom, D. (2012) Conservation biogeography of the Antarctic. *Diversity and Distributions*, 22 May 2012, DOI: 10.1111/j.1472-4642.2012.00925.x.

Terauds, A. & Lee, J.R. (2016) Antarctic biogeography revisited: updating the Antarctic Conservation Biogeographic Regions, *Diversity and Distributions*, 1–5, DOI:10.4225/15/5729930925224.