

Area protection in and around Antarctica – lessons from the other pole

Pete Convey, Kevin A. Hughes

pcon@bas.ac.uk, kehu@bas.ac.uk

www.bas.ac.uk



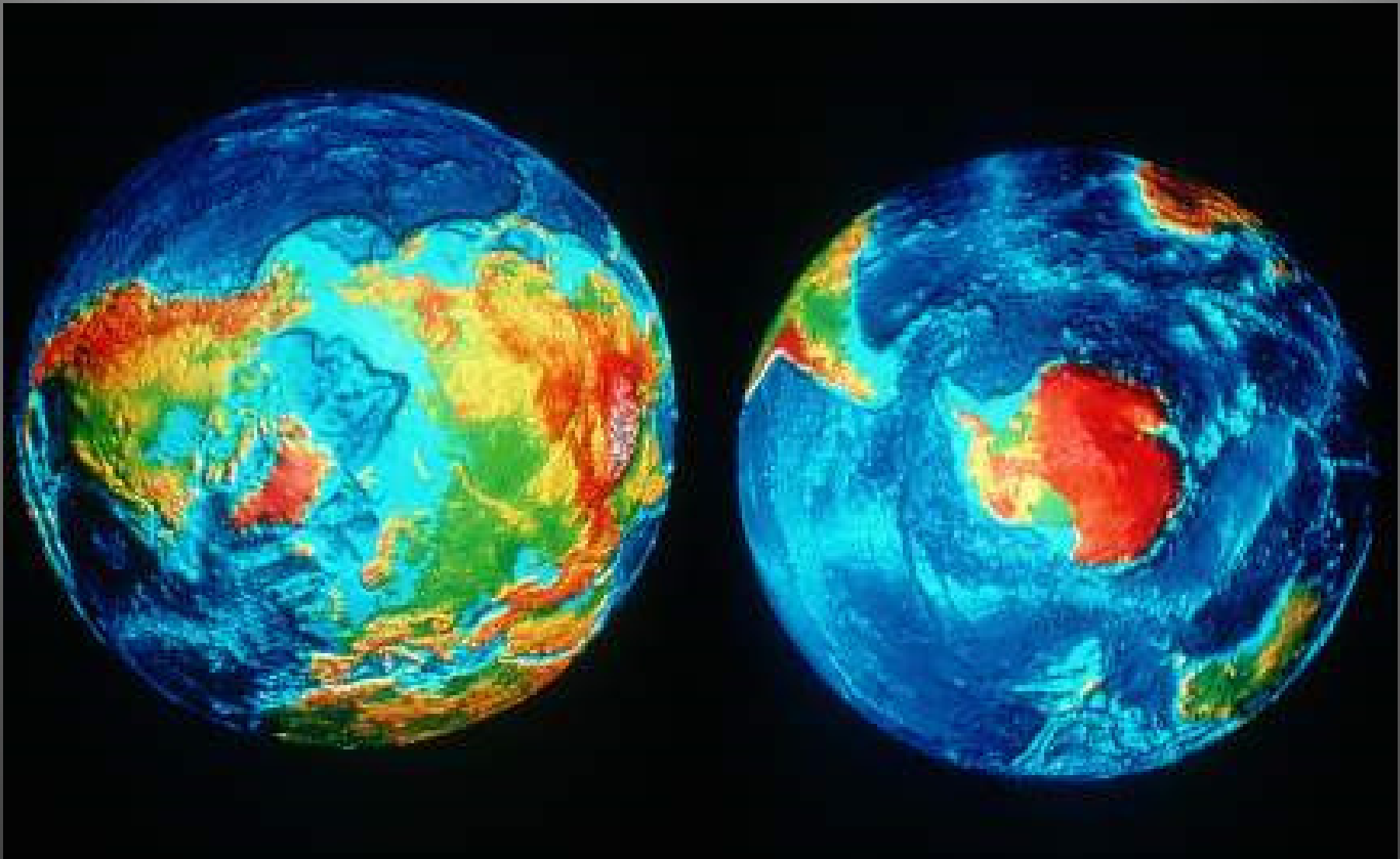
**British
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Overview

- Contrasts between Arctic and Antarctic
- Features of Antarctic biodiversity and biogeography
- Current protected area system in Antarctica, strengths and weaknesses
- Future trajectory

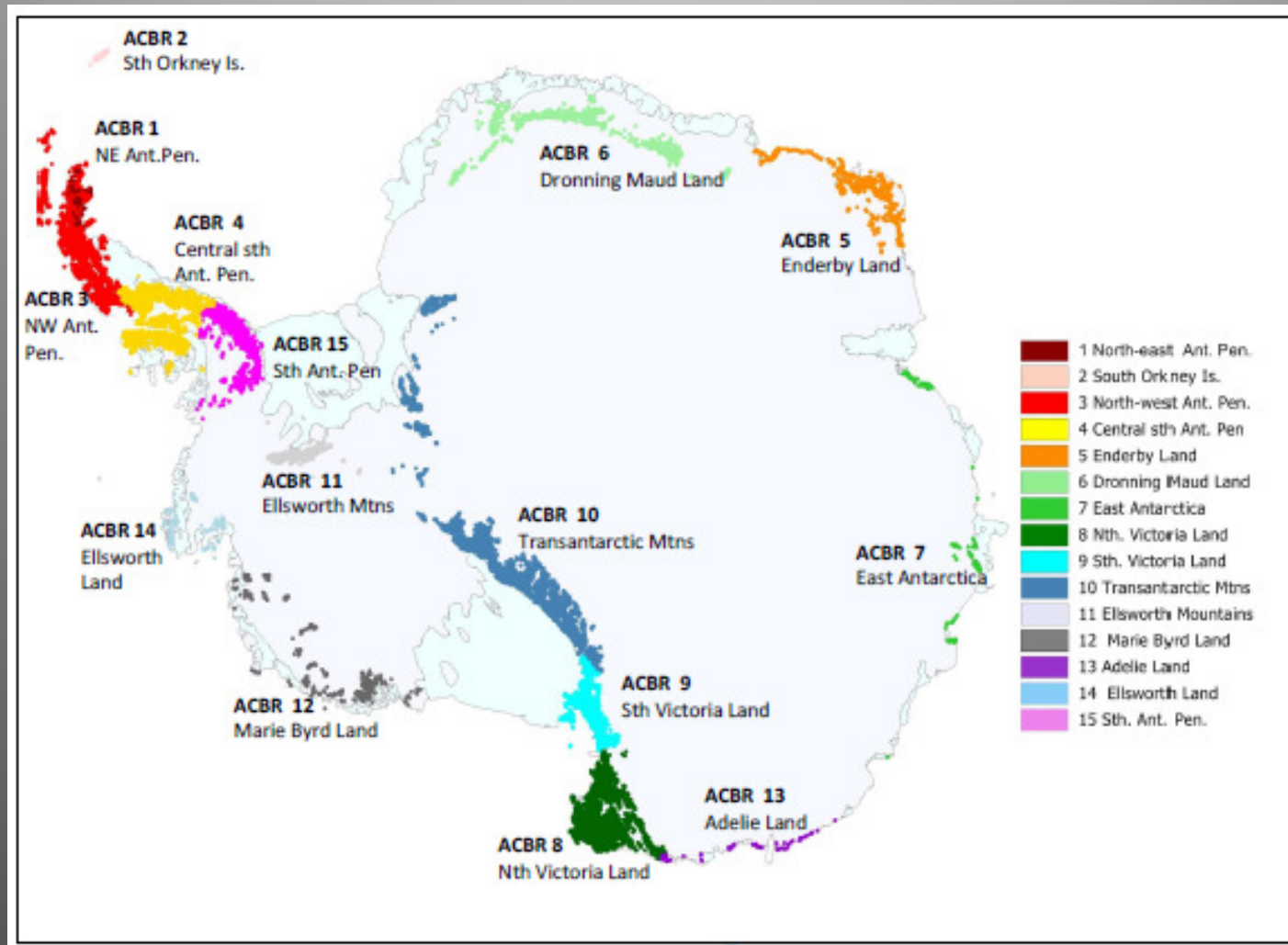
Contrasting Poles



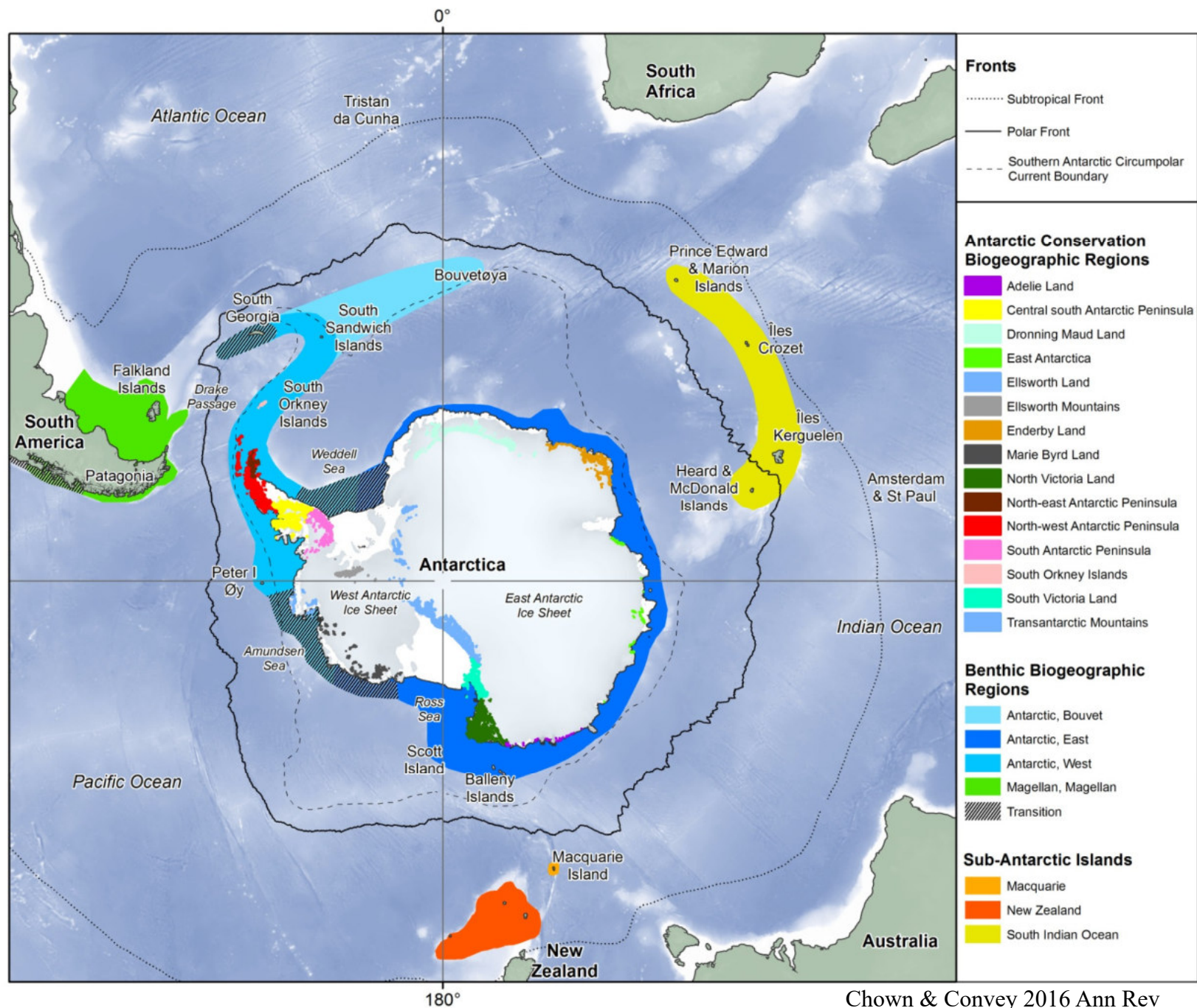
Classic Antarctic Bioregions



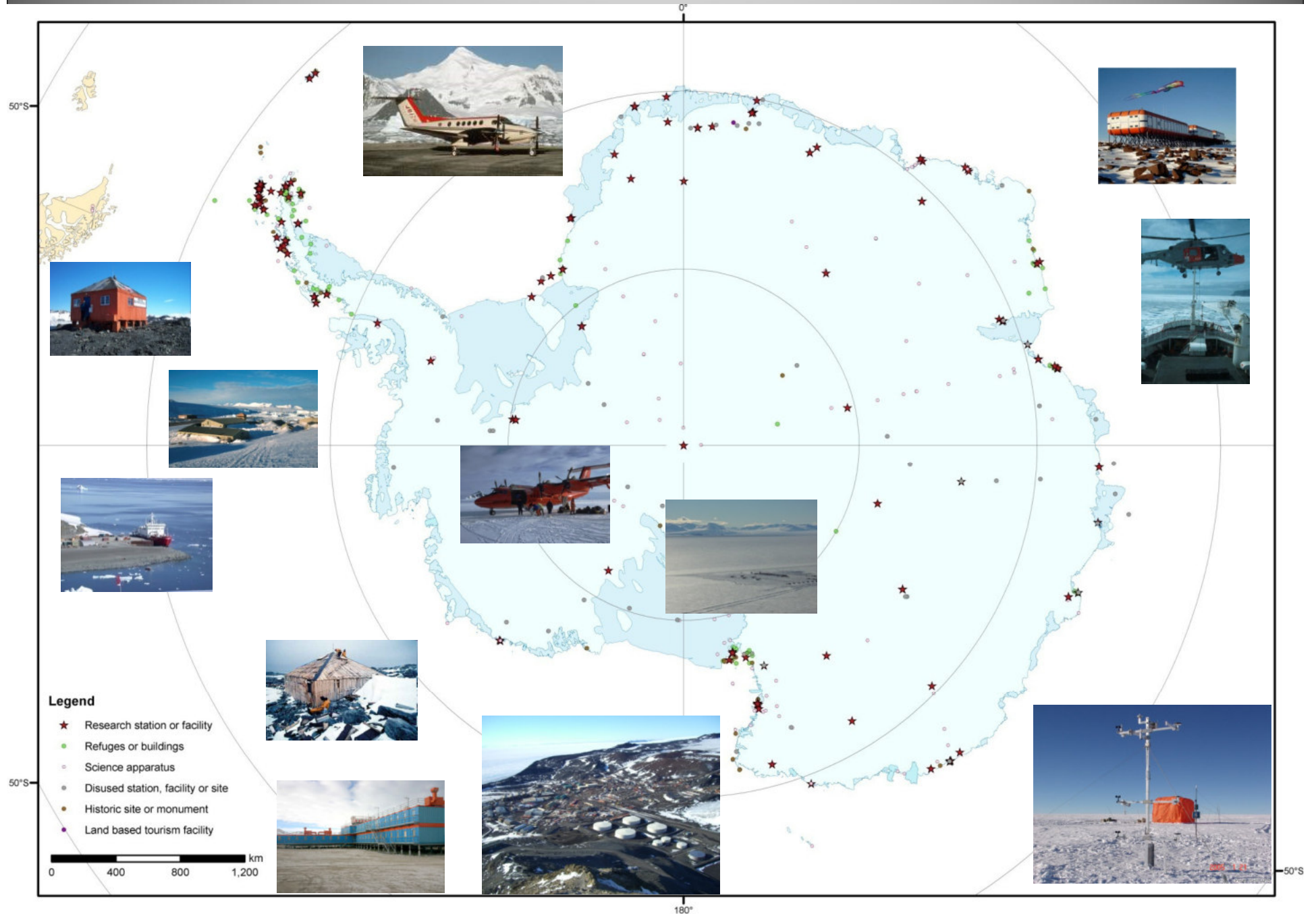
Biogeographic Regions 2016!



Terauds et al. Diversity and Distributions 2012



Infrastructure that has footprint that lasts more than 1 year





Background on Antarctic protected areas

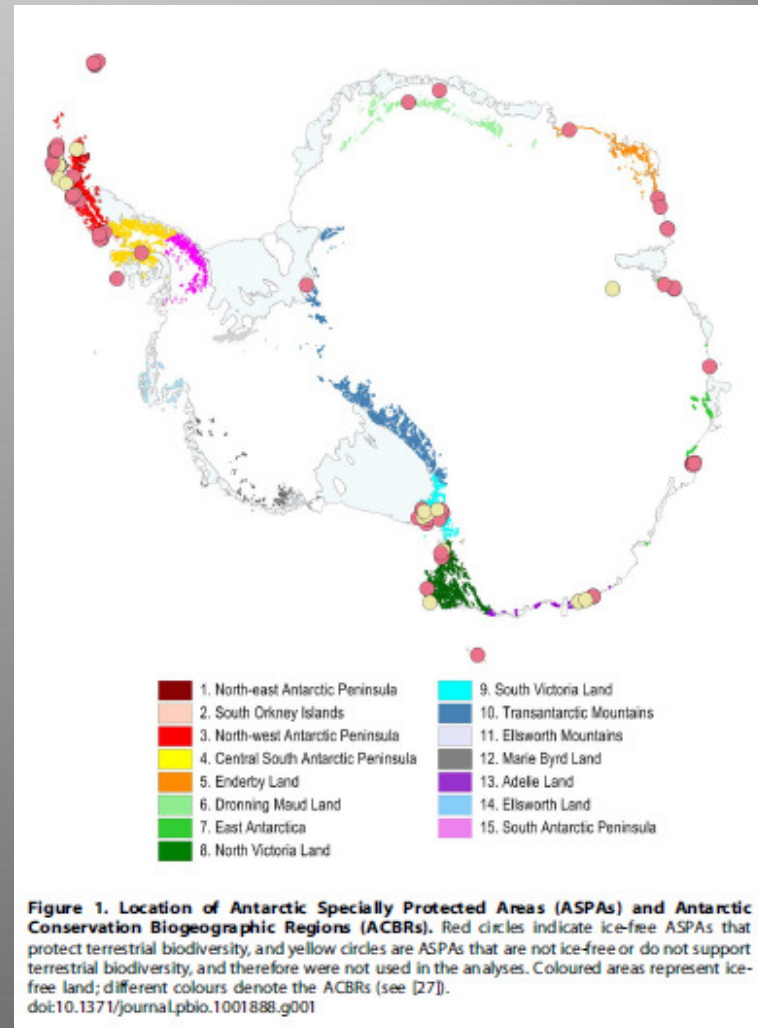
- First protected area designated in 1966
- Current legislation: **Protocol on Environmental Protection to the Antarctic Treaty** and the **Convention on Conservation of Antarctic Marine Living Resources** (CAMLR Convention)
- 72 Antarctic Specially Protected Areas (ASPAs), not all for biodiversity values
- In practice, the proponent Party (or Parties) manage the area
- Only 15 out of 29 Consultative Parties are proponents for ASPAs
- Two thirds of ASPAs have a claimant Party as proponent
- Marine Protected Areas: South Orkney Islands (2009) and Ross Sea (2016)
- Antarctic Specially Managed Areas (ASMAs), and Historic Sites

‘Values’ justifying area protection

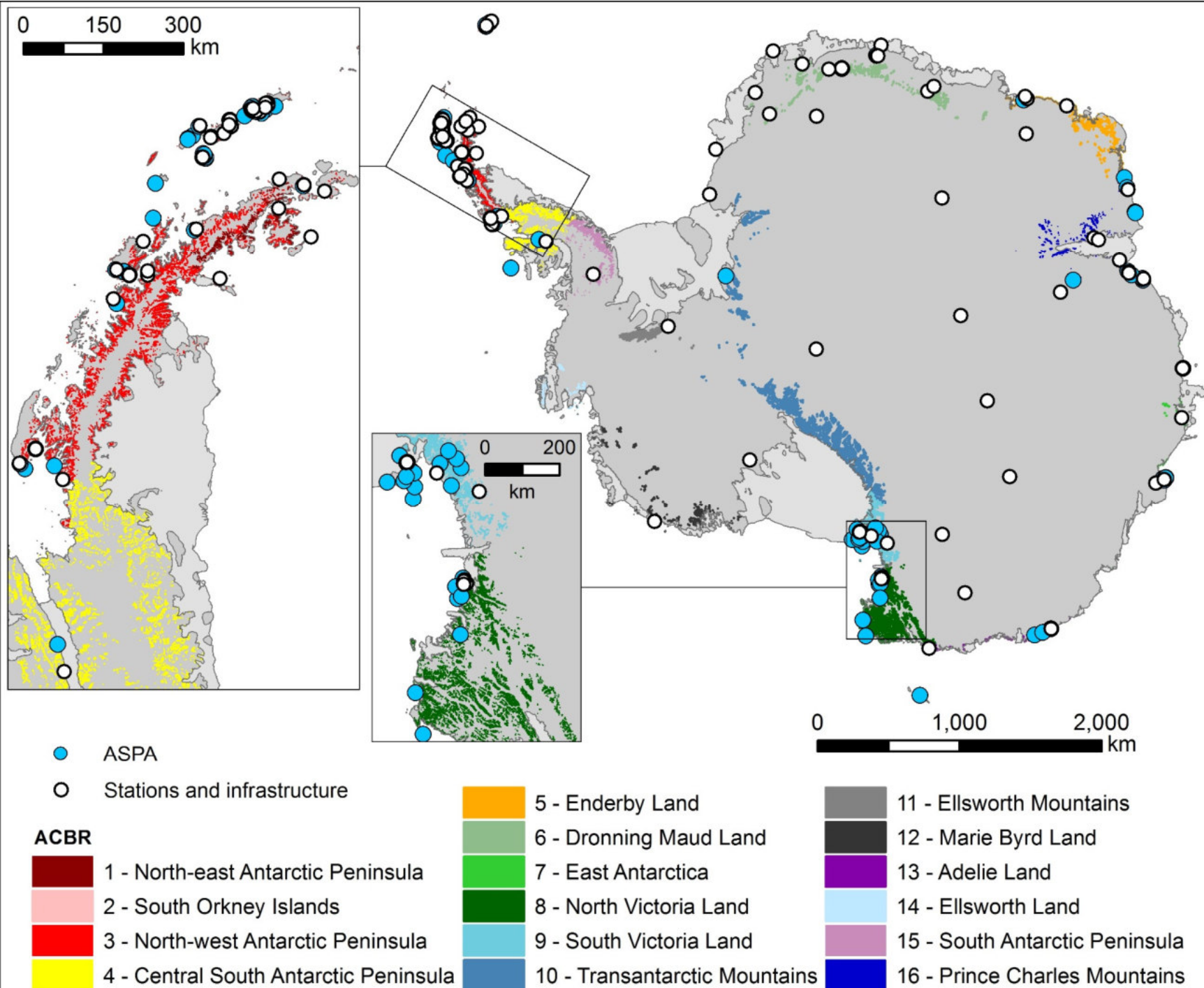
- Any area, including any marine area, may be designated an Antarctic Specially Protected Area [ASPA] to protect outstanding environmental, scientific, historic, aesthetic or wilderness values, any combination of those values, or ongoing or planned scientific research [Environmental Protocol, Annex V, Article 3(1)]
- ASPAs are intended specifically to protect ‘representative examples of major terrestrial, including glacial and aquatic, ecosystems and marine ecosystems’, ‘areas with important or unusual assemblages of species’ and ‘the type locality or only known habitat of any species’ [Annex V, Article 3(2b, c and d)].

Antarctic Specially Protected Areas

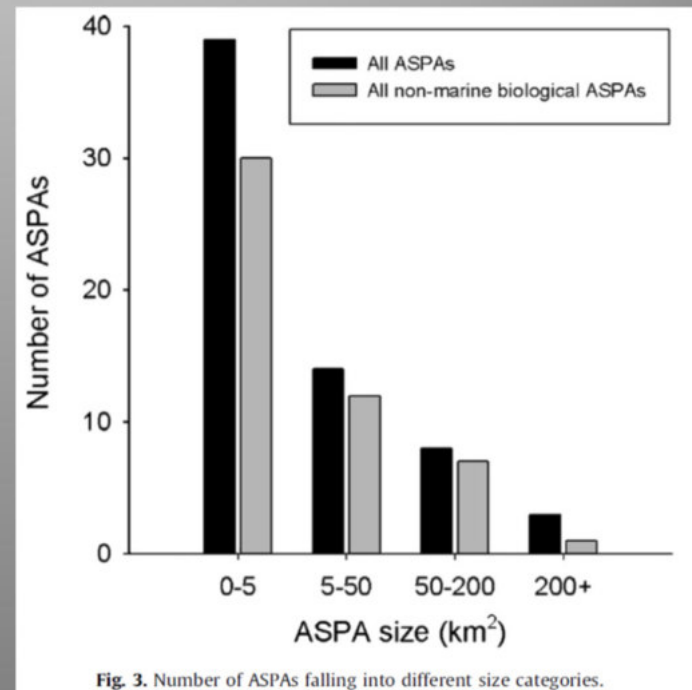
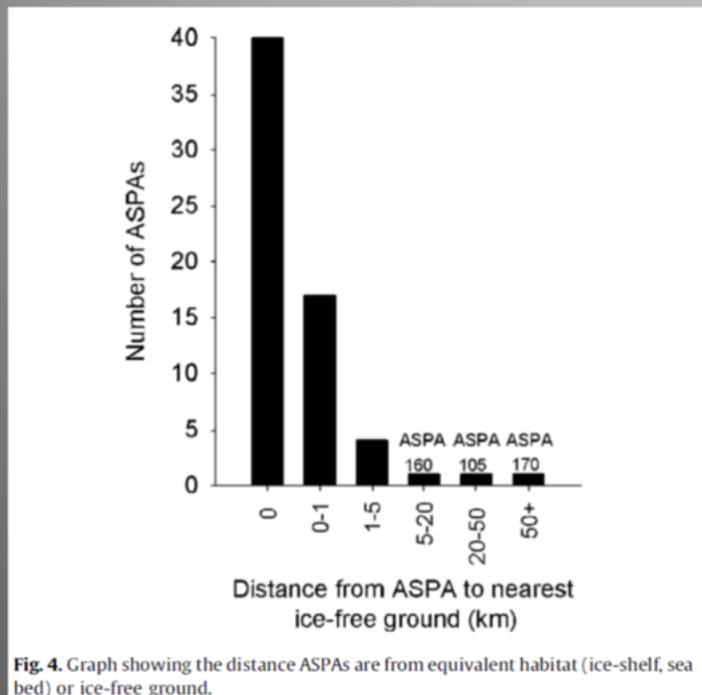
- At present inadequate (far short of Kyoto/Aichi)
- Unrepresentative spatially, regionally and in terms of biodiversity and environmental features
- Vulnerable to human activity, invasions, pollution, climate change
- Unlike Arctic no requirement for trans-boundary approaches and societal buy-in (still geopolitics!)



Terauds et al. Divers Distrib 2012; Shaw et al. PLoS Biol 2014; Coetzee et al. Conserv Lett 2017



Limits to effectiveness of ASPAs



Most ASPAs are small to very small, many bounded by non-protected ice-free ground, close to centres of human activity – biosecurity challenges, not resilient to climate change trends

ASPAs protecting vegetated ground

Table 1. Area of vegetated ground protected within the Antarctic Specially Protected Area (ASPAs) system.

Category	Area (km ²)	As a percentage of Antarctica	As a percentage of Antarctic ice-free ground
All of Antarctica	14,000,000	100.0000	–
Antarctic ice-free ground	44,000	0.3143	100.00
ASPAs protecting terrestrial vegetation	605.7	0.0043	1.38
Ice-free ground in ASPAs protecting terrestrial vegetation	214.5	0.0015	0.49
Vegetation cover within ASPAs	16.1	0.0001	0.04

- <1.5% of ice free area protected
- 16 km² vegetation protected across continent, >50% of which in a single ASPA!

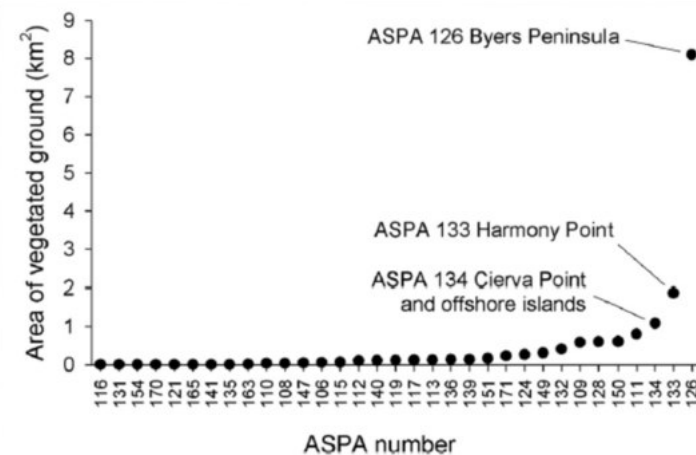
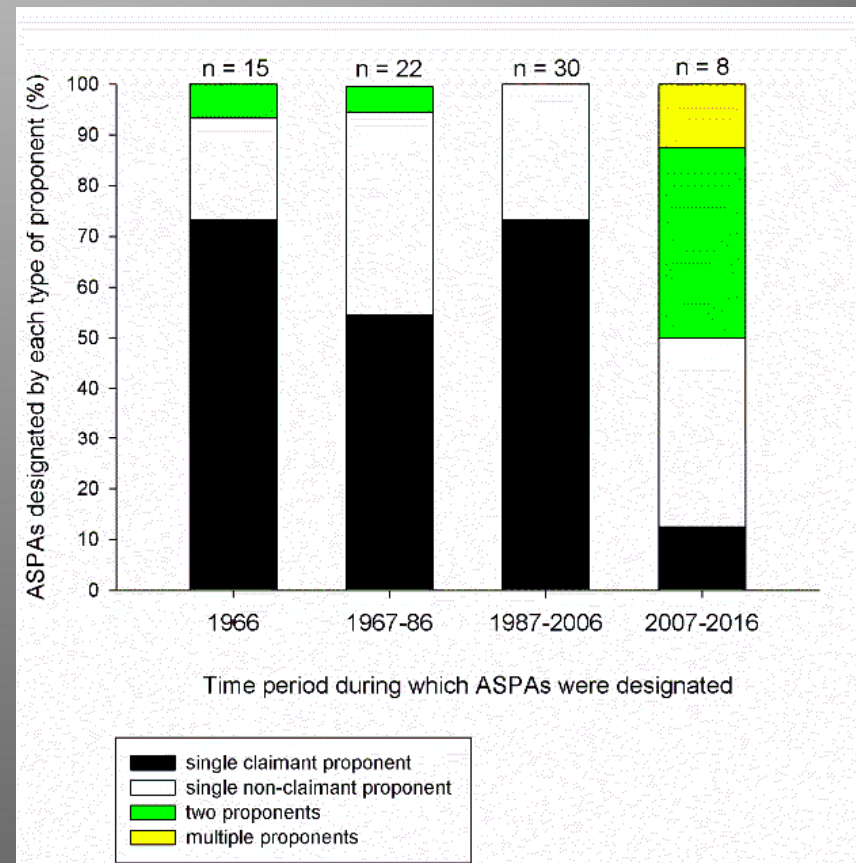


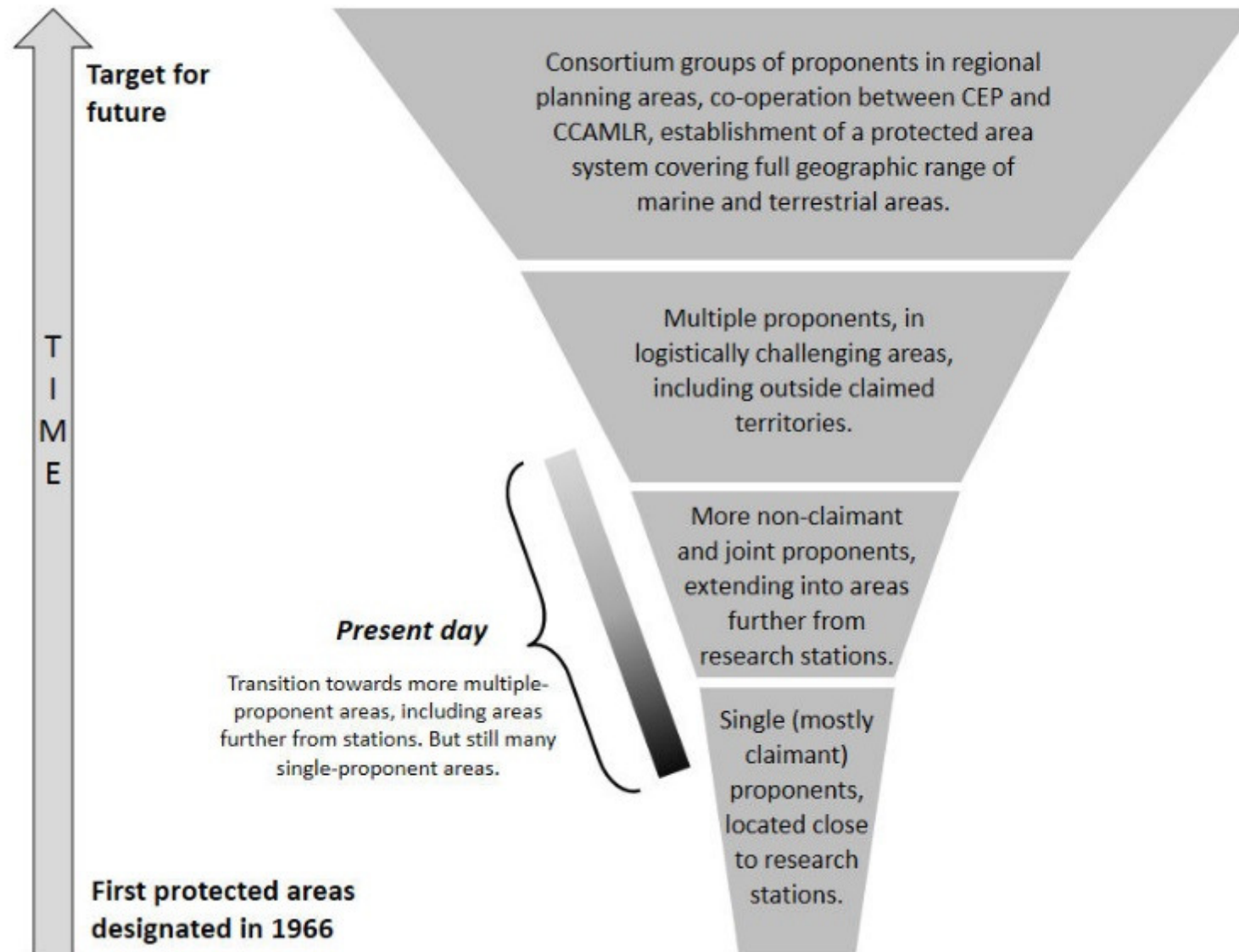
Figure 3. Area of vegetated ground within Antarctic Specially Protected Areas (ASPAs) protecting Antarctic flora detected with satellite remote sensing techniques.

Trends in protected area designation

- ASPAs are being designated further away from stations
- Move towards multi-Party proposals for ASPAs and MPAs
- However, rate of ASPA designation has **halved** in the past 10 years



The future?



Overview

- Positive and negative aspects to biodiversity protection in Antarctica
- Magnitude of existing threats and damage are limited
- Appropriate governance mechanisms in place and relatively simple to apply
- But current ASPA network inadequate and with major weaknesses
- Antarctic Conservation Strategy being developed, including application of strategic conservation approaches
- Practical advantages – despite size of continent, no limitation of national boundaries, and relatively few entry gateways, logistic routes and corridors

Thank you!

