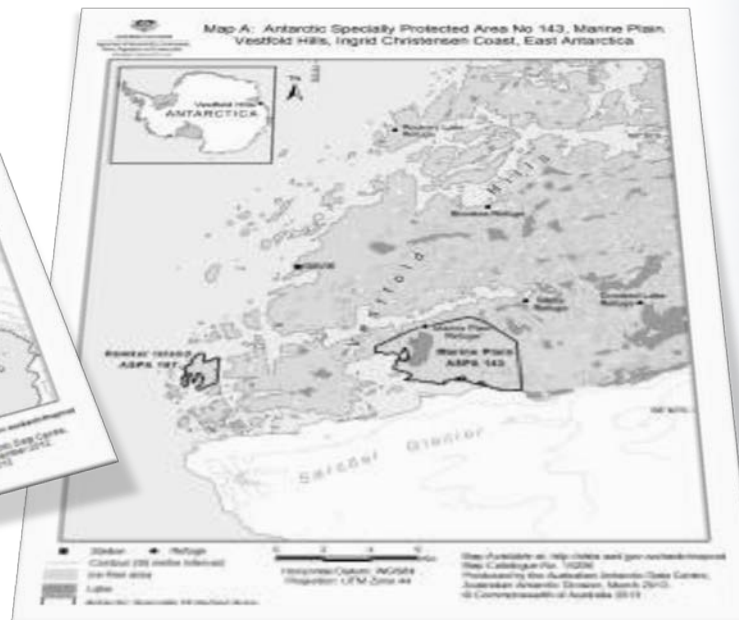
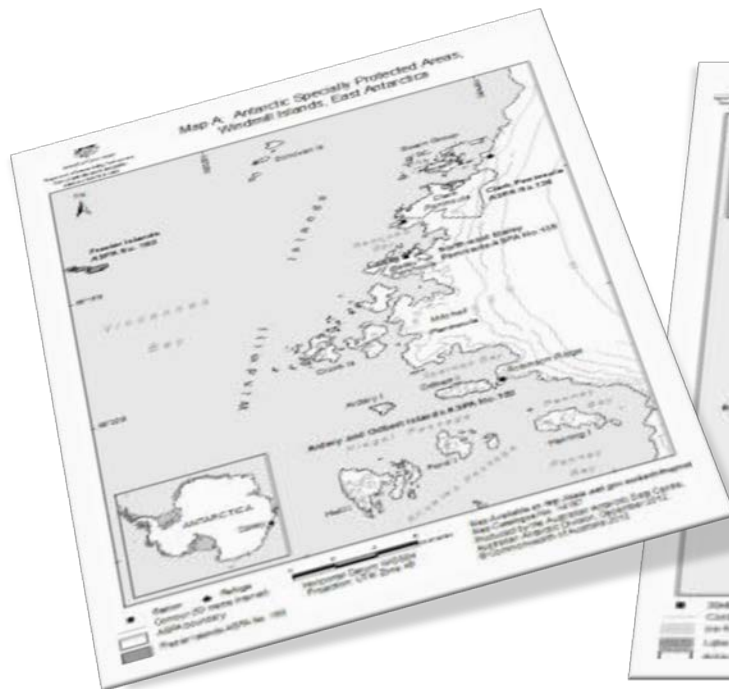


The Growing Relevance of Protected Areas in Antarctica





1. Antarctica is governed by a unique international regime.

The Antarctic Treaty System

Antarctic Treaty 1959

Promotes peace and scientific research

Annual Treaty Meetings

Environmental Protocol 1991

Designates Antarctica as a natural reserve for peace and science

Sets out tough environmental rules

Committee for Environmental Protection

Commission

Convention on Marine Living Resources 1980

Conservation and rational use of marine resources

Scientific Committee

Annex V to the Protocol

- *Antarctic Specially Protected Areas*
 - Permit for entry
 - Management Plan reviewed every 5 years
 - No expiry date unless specified
- Any area including any marine area can be designated an ASPA



Designation Process



Management Plan for Antarctic Specially Protected Area No 135

NORTH-EAST BAILEY PENINSULA, BUDD COAST, WILKES LAND

Introduction

North-East Bailey Peninsula (66°16'59.9"S, 110°31'59.9"E) is located approximately 200m east of Australia's Casey station, in the Windmill Islands region of the Budd Coast, Wilkes Land, East Antarctica. It is a Site of Special Scientific Interest (SSSI) No 16 under a proposal by Australia. In accordance with Decision 1 numbered as Antarctic Specially Protected Area (ASPA) for the Area were adopted under Measure 2 (2003) and stated primarily as a scientific reference site which, since



Adopted

Proposed by one or more countries

CEP

Entry Permit issued by any Treaty Party

Review

Reviewed by one or more countries

Annex V to the Protocol

- Antarctic Specially Protected Areas - criteria
 - Inviolate areas
 - Representative examples of major ecosystems
 - Areas with important or unusual assemblages of species
 - Type locality or only known habitat of any species
 - Important science areas
 - Examples of outstanding geological, glaciological or geomorphological features
 - Areas of outstanding aesthetic or wilderness value
 - Sites or monuments of recognised historic value



A wide-angle landscape photograph of an Antarctic region. The foreground is filled with numerous dark, reddish-brown rocks of various sizes. In the middle ground, there are rolling hills and valleys, some with patches of snow. The background features a range of jagged, snow-capped mountains under a heavy, overcast sky with dark, grey clouds. The text "2. Antarctic protected areas are an *ad hoc* collection of sites." is overlaid in white, sans-serif font on the left side of the image.

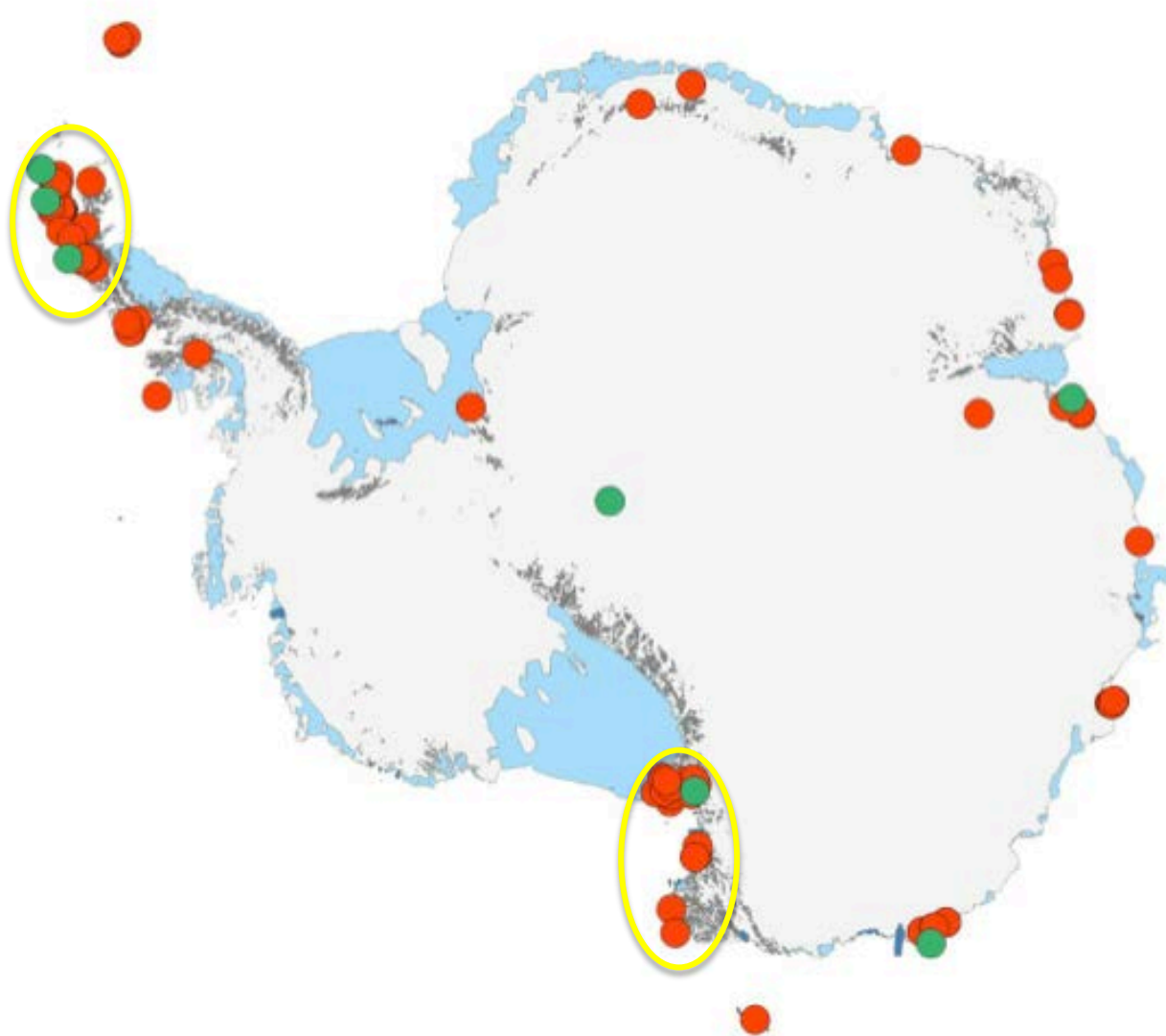
2. Antarctic protected areas are an *ad hoc* collection of sites.

Antarctic Specially Protected Areas

Reason for designation	Number of ASPAs
Inviolate areas	2
Representative examples of major ecosystems	10
Important or unusual assemblages of species	37
Type locality of known species	0
Areas of interest to science	10
Outstanding geological, glaciological or geomorphological features	6
Outstanding aesthetic or wilderness values	1
Sites or monuments of historic value	6
Total	72



Antarctic Protected Areas System



ASMA and ASPA location data from Environmental Research and Assessment (2011)

Spatial Coverage

- Largest ASPA - Western Bransfield Straits
- 1021 km² (0.005% of the SO¹)
 - Offers unique opportunities to study composition, structure and dynamics of marine communities
- Largest terrestrial ASPA - Barwick and Balham Valleys
- 423 km² (0.03% of the continent²; 0.9% of ice-free Antarctica³)
 - Rarely visited important reference area
- ¹ 20,327,000 km²
- ² 13,829,430 km²
- ³ 46,000 km²



A wide-angle photograph of an Antarctic landscape. The foreground is filled with numerous dark, reddish-brown rocks of various sizes. In the middle ground, there are rolling hills and valleys, some with patches of snow. The background features a range of jagged, snow-capped mountains under a heavy, overcast sky with dark, grey clouds. The text "3. Pressures on Antarctica are increasing" is overlaid in white, sans-serif font on the left side of the image.

3. Pressures on Antarctica are increasing

Changing context

Retreating Glacier Fronts on the Antarctic Peninsula over the Past Half-Century

A. J. Cook,^{1*} A. J. Fox,¹ D. G. Vaughan,¹ J. G. Ferrigno²
Science vol. 308, 2005

The continued retreat of ice shelves on the Antarctic Peninsula has been widely attributed to recent atmospheric warming, but there is little published work describing changes in glacier margin positions. We present trends in 244 marine glacier fronts on the peninsula and associated islands over the past 61 years. Of these glaciers, 87% have retreated and a clear boundary between mean advance and retreat has migrated progressively southward. The pattern is broadly compatible with retreat driven by atmospheric warming, but the rapidity of the migration suggests that this may not be the sole driver of glacier retreat in this region.

SURFACE AIR TEMPERATURE OVER THE LAST 50 YEARS
(measured at Faraday, now Vernadsky Research Station, Antarctic Peninsula)

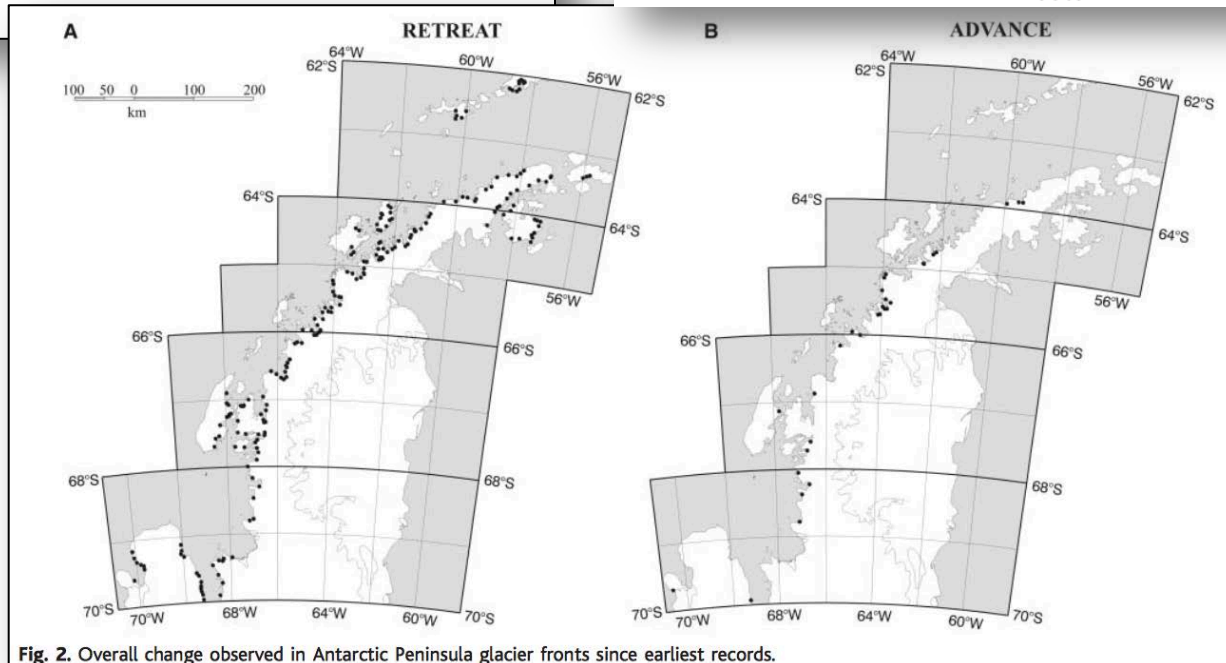
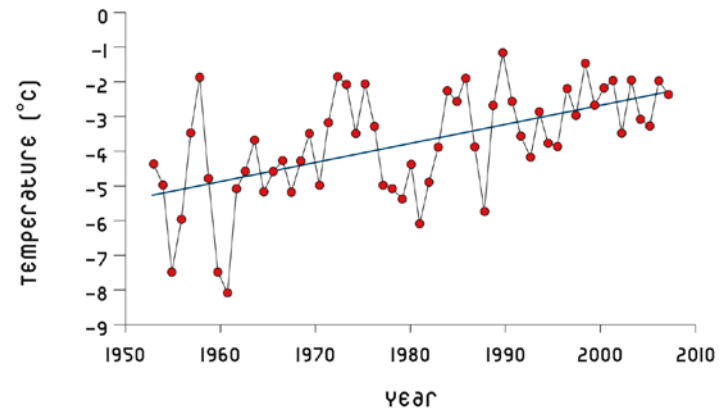


Fig. 2. Overall change observed in Antarctic Peninsula glacier fronts since earliest records.

Changing context



RESEARCH/REVIEW ARTICLE

Colonization and demographic structure of *Deschampsia antarctica* and *Colobanthus quitensis* along an altitudinal gradient on Livingston Island, South Shetland Islands, Antarctica

María Luisa Vera

Department of Organisms and Systems Biology, University of Oviedo, Catedrático Rodrigo Uria s/n, ES-33071 Oviedo, Spain

Polar Research



Changing context

A Nonmarine Source of Variability in Adélie Penguin Demography

Oceanography | Vol. 26, No.3

BY WILLIAM R. FRASER, DONNA L. PATTERSON-FRASER,
CHRISTINE A. RIBIC, OSCAR SCHOFIELD, AND HUGH DUCKLOW

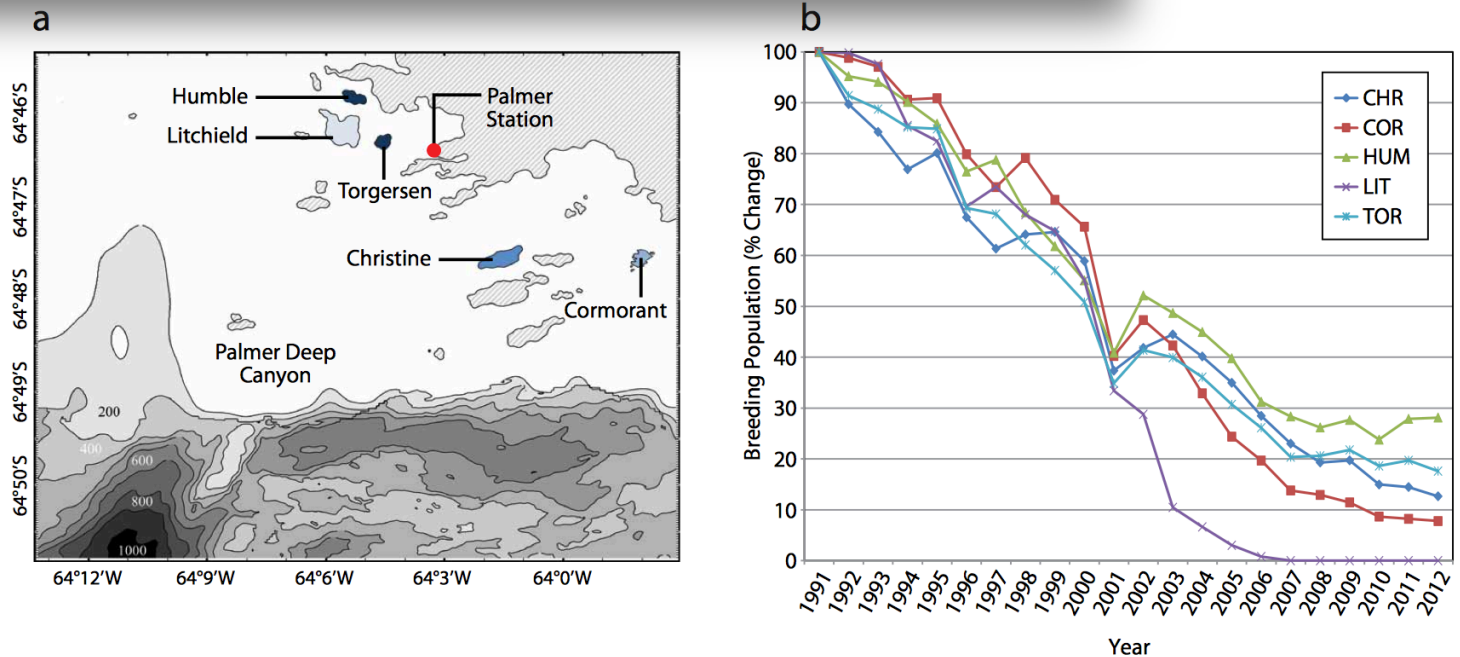


Figure 1. (a) Palmer Station, Antarctica, and vicinity showing the Palmer Deep Canyon and the five island populations of Adélie penguins. Island color shading from dark to light blue reflects an increasing percent of island-specific suboptimal penguin breeding habitat. (b) The islands' respective population trends (breeding pairs/year) since the inception of the Palmer LTER in 1991. To visually compare the trends, breeding pairs/year were standardized as (breeding pairs in year i /breeding pairs in 1991) \times 100. HUM = Humble Island. TOR = Torgersen Island. COR = Cormorant Island. CHR = Christine Island. LIT = Litchfield Island. Year denotes the austral field season, thus 1991 = 1991/1992 field season.

ANTARCTICA AND THE SOUTHERN OCEAN

Produced by the Australian Antarctic Data Centre,
Australian Antarctic Division,
Department of the Environment and Heritage,
© Commonwealth of Australia, June 2000



• Marion Island
• Prince Edward Islands (S Africa)
• Alfred Faure • Crozet Islands (France)

Eretmoptera murphyi

Poa annua

Trichocera sp

Poa trivialis

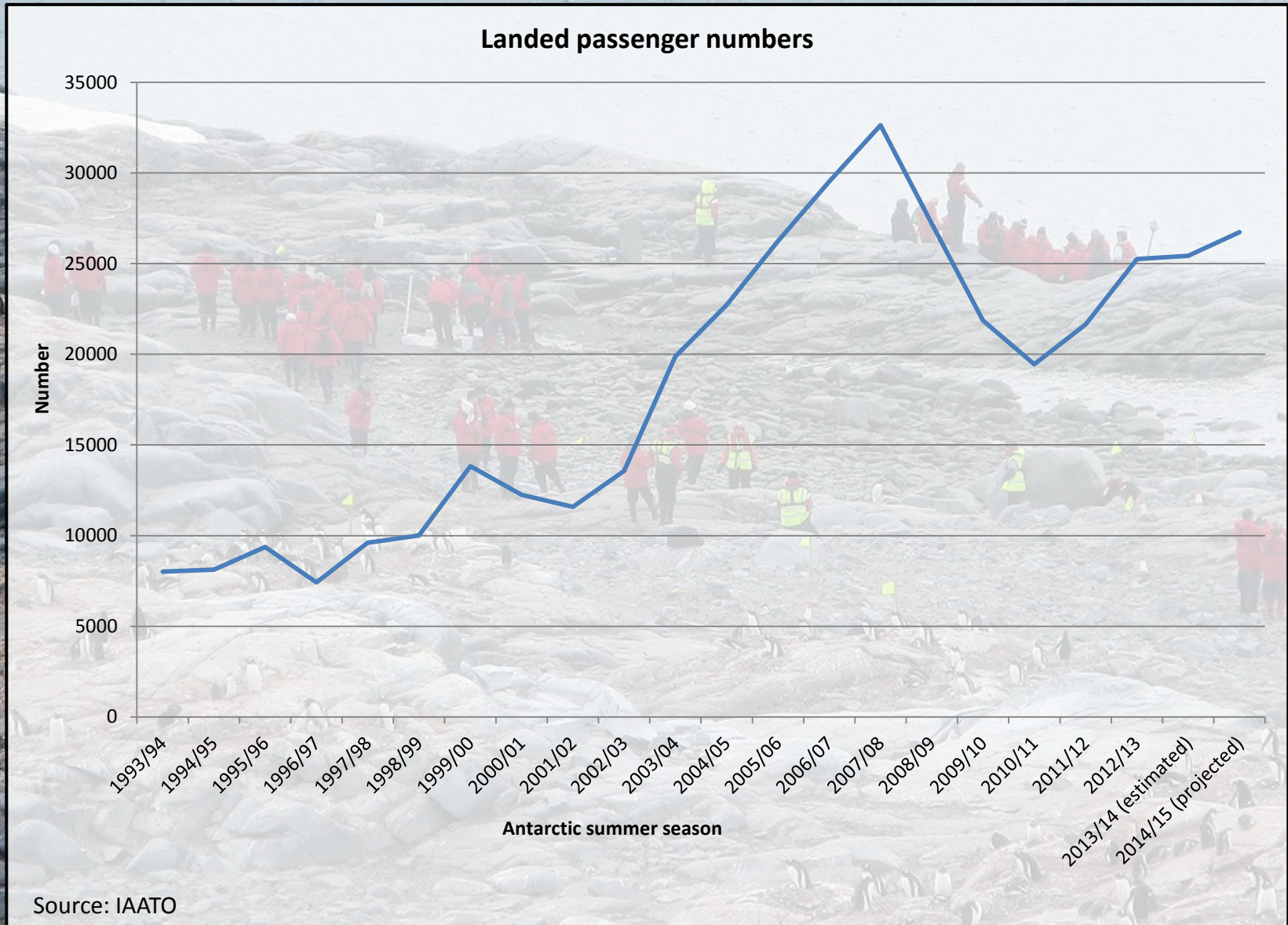
Poa pratensis

Nassauvia magellanica

Polar Stereographic Projection
Scale : 1:35,000,000 at 71°S
• Winter station
(not necessarily occupied every winter)

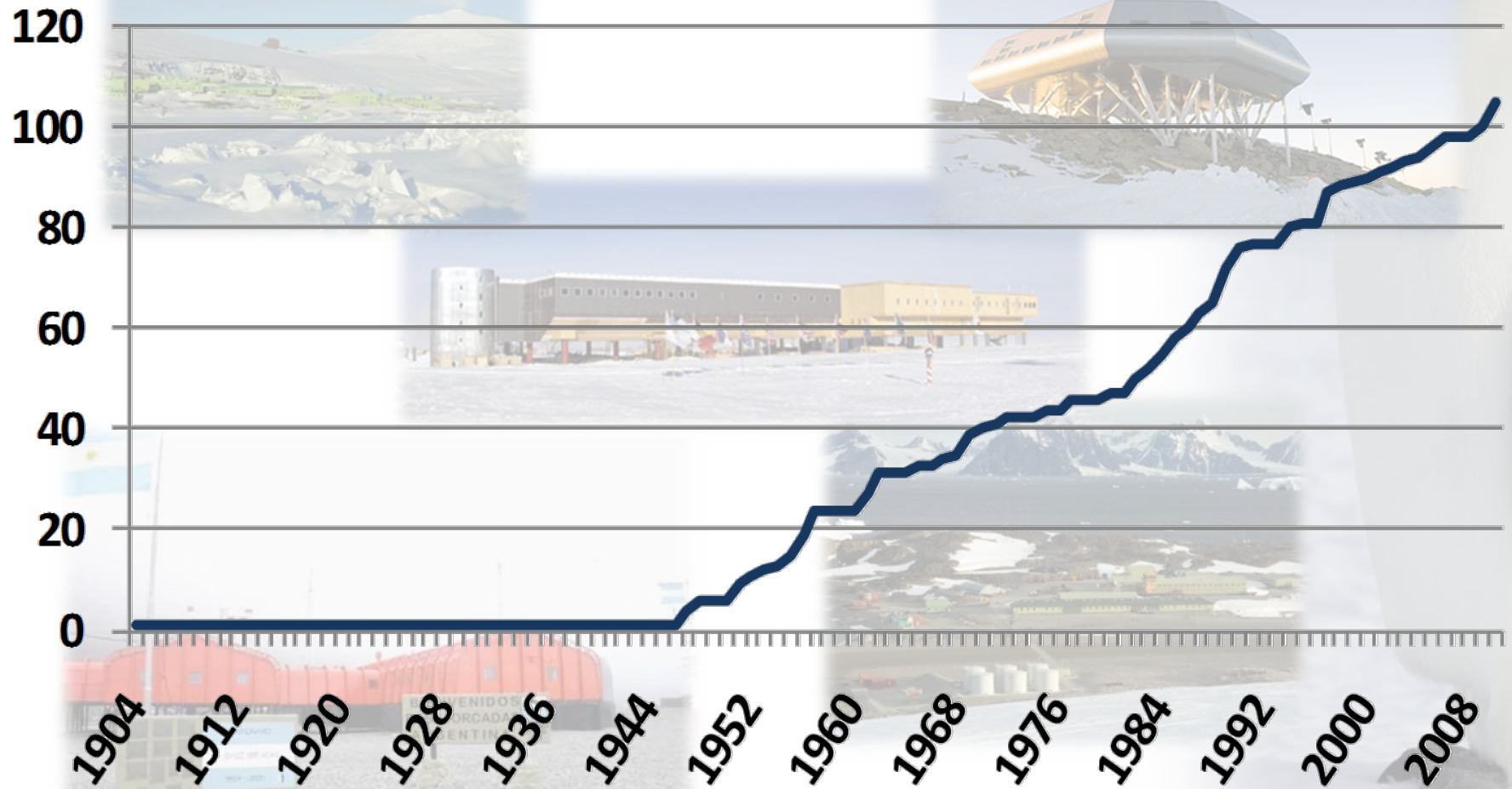
Map: Australian Antarctic Division

Changing use



Changing use

Active Antarctic stations 1904 - 2010



A quick stocktake

Strengths

- Approval and review process
- Management plan quality

Weaknesses

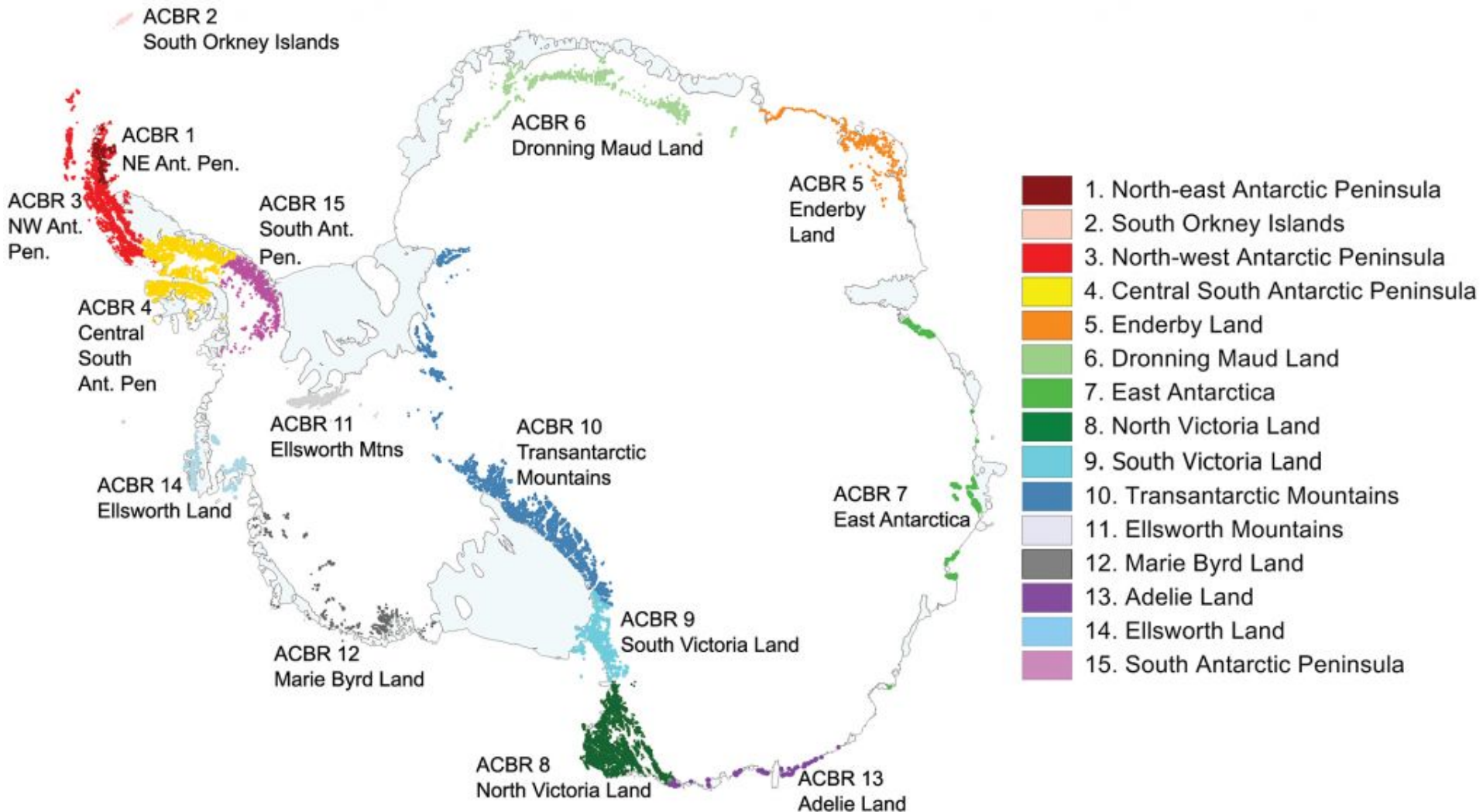
- No holistic overview of the system
- Lack of strategic intent
 - Representativeness
 - Spatial coverage
 - *Connectedness*
- Homogenisation of values
- Lack of flexibility





4. There are opportunities for renewed attention

Environmental / Geographic Framework



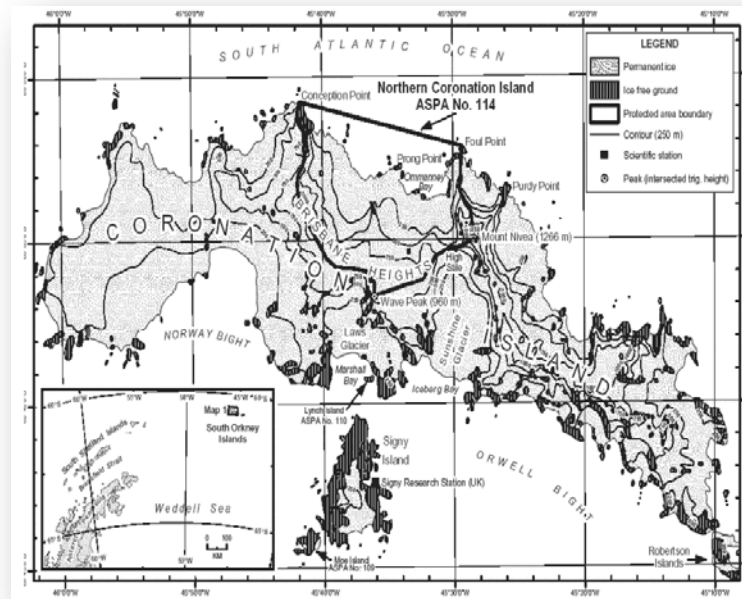
Growing Flexibility?

- First de-designation in 2014

Measure 16 (2014)

The Representatives:

Recommend to their Governments that the management plan for ASPA 114 be revoked



The Antarctic Environments Portal

Overview

The Antarctic Environments Portal provides an important link between Antarctic science and Antarctic policy. The Portal makes science-based information available to the Antarctic Treaty System's Committee for Environmental Protection (CEP) and all the Antarctic Treaty Consultative Parties on environmental protection. The Portal also enables Antarctic scientists, particularly through the Scientific Committee on Antarctic Research (SCAR), to provide independent scientific advice to the Antarctic Treaty Consultative Parties. The information available through the Portal is based on published, peer-reviewed science and has been through a rigorous editorial review process.

- Places Antarctic science at the fingertips of policy makers
- Provides independent, reliable, up-to-date, policy ready summaries on priority issues
- Raises awareness of emerging issues

Biodiversity knowledge

The term biodiversity describes the variety of life on Earth, from micro-organisms to whales, along with the habitats they depend upon on land, at se ...

Supporting wise management in a period of significant change

Current Priority Issues

[View All](#)

The introduction of non-native species

[More...](#)

Tourism and non-governmental activities

[More...](#)[Interactive Map...](#)[Summaries](#)[Issues](#)

What's Changed

Biodiversity knowledge	03/04/2014
Clean-up of past waste disposal sites and abandoned work sites in Antarctica	03/04/2014
Climate change as an emerging threat to Emperor Penguins	03/04/2014
Global pressure: climate change	03/04/2014
Human disturbance to Antarctic wildlife	03/04/2014
Marine spatial protection and management	03/04/2014
Repair or remediation of environmental damage	03/04/2014
Specially protected and managed areas	03/04/2014
Specially protected and managed areas in Antarctica	03/04/2014

The Portal project was initiated by and is currently being funded and managed by Antarctica New Zealand, in close cooperation with Landcare Research, and in collaboration with international partners.

www.environments.aq

Future vision

- Major review of the protected areas in Antarctica
- Development of a more systematic approach
 - Clear targets
 - Continental and regional scales
 - Development and utilisation of biogeographic & other planning tools
- Development of criteria for designating and de-designating protected areas

Conclusions



- Protected areas a focus of the Treaty System since 1966
- High quality management plans in place
- *But.....*
- Significant challenges remain to effect a strategic, systematic and proactive protected areas system
- Imperative – retaining Antarctica's value as a natural reserve devoted to peace and science
- IUCN can help!

Questions?

