Antarctica New Zealand

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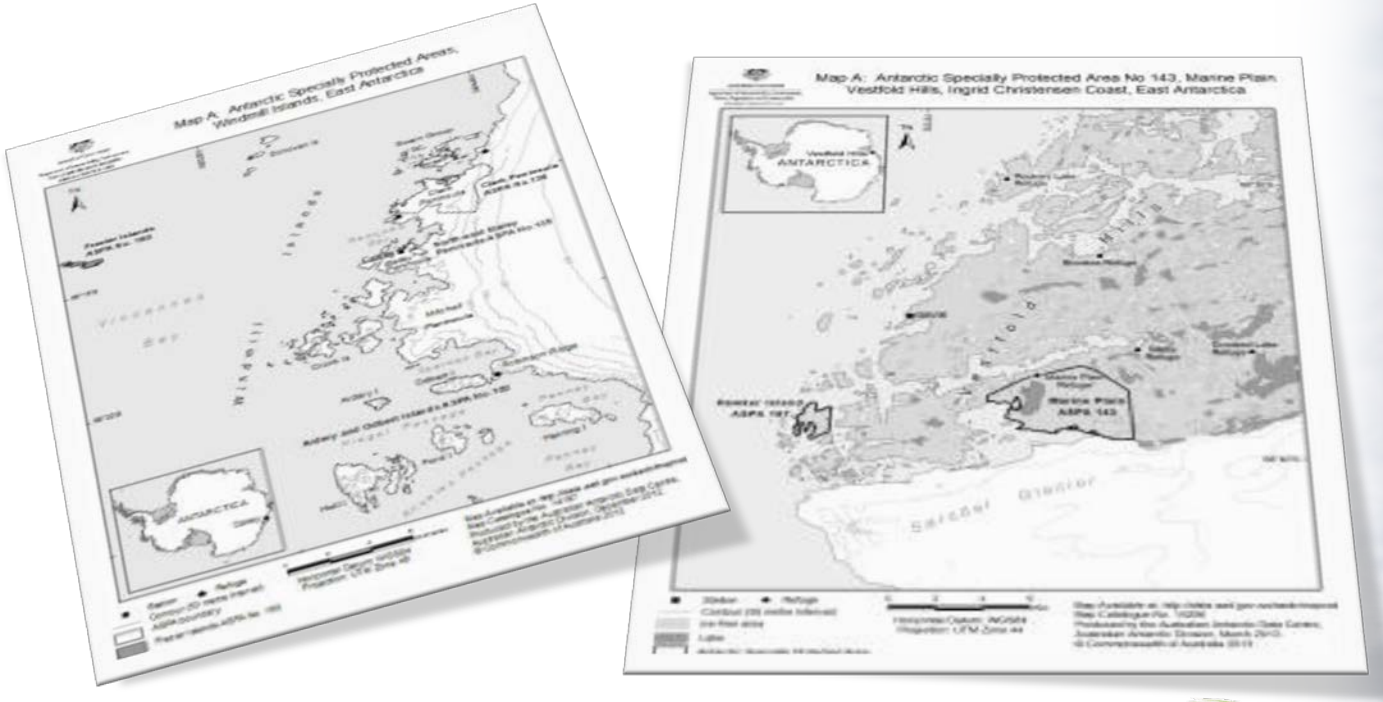
constantia consulting
Creative Environmental Solutions

The Growing Relevance of Protected Areas in Antarctica



WPC – Polar Session – 15 November 2014

IUCN WORLD PARKS CONGRESS
SYDNEY 2014

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

Scientific Committee

Convention on Marine Living Resources 1980

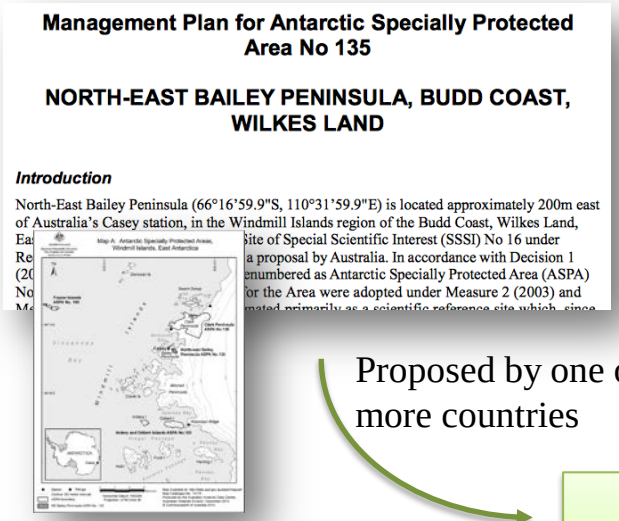
Conservation and rational use of marine resources

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, Ea… …ite of Special Scientific Interest (SSSI) No 16 under Re… …a proposal by Australia. In accordance with Decision 1 (20… …enumbered as Antarctic Specially Protected Area (ASPA) No… …or the Area were adopted under Measure 2 (2003) and M… …mated primarily as a scientific reference site which, since

Proposed by one or more countries

ATCM

Adopted

CEP

Entry Permit issued by any Treaty Party

Review

Reviewed by one or more countries

Annex V to the Protocol

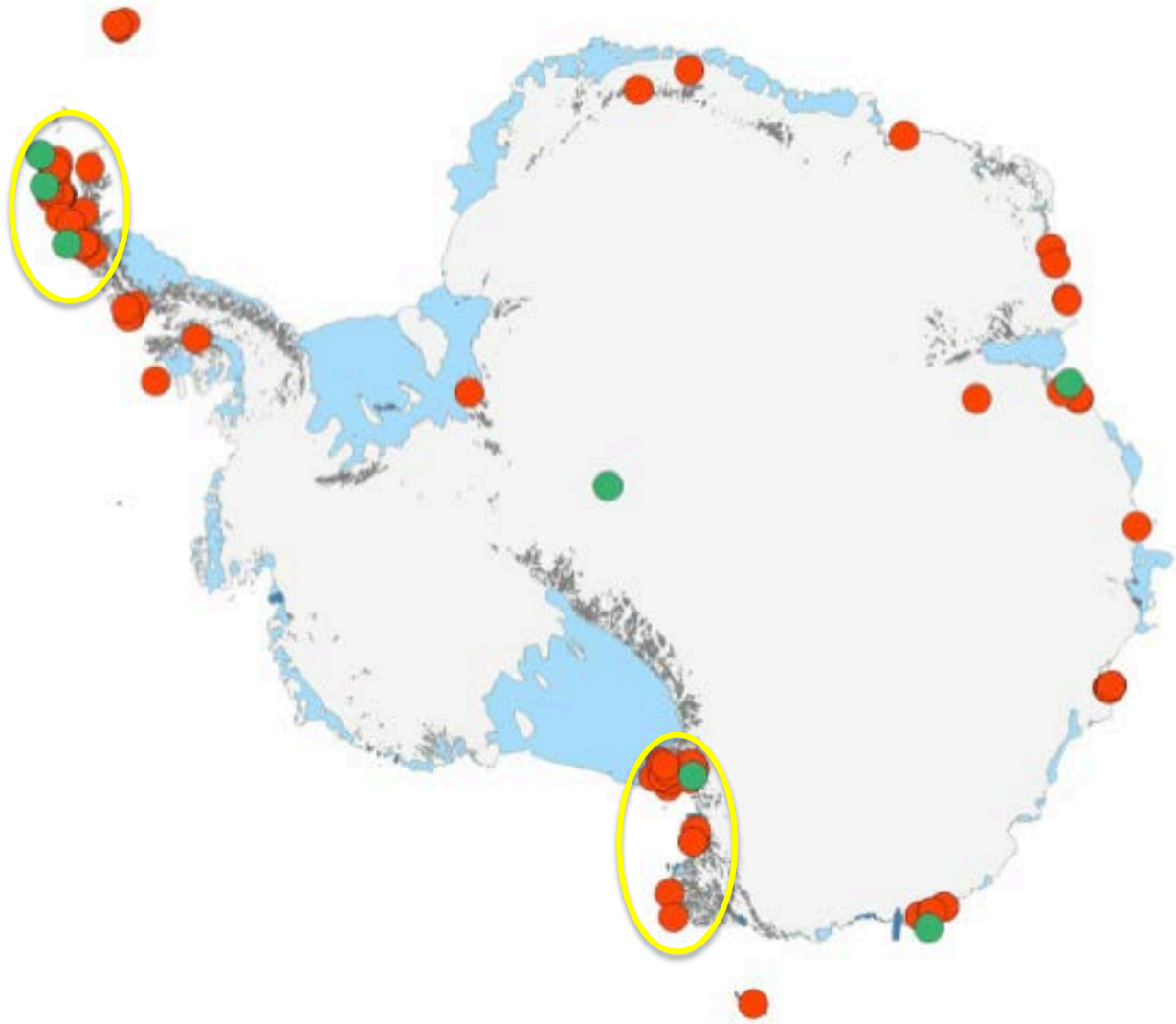
- Antarctic Specially Protected Areas - criteria
  - Inviolate areas
  - Representative examples of major ecosystems
  - Areas with important or unusual assemblages of species
  - Type locality or only known habitat of any species
  - Important science areas
  - Examples of outstanding geological, glaciological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


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



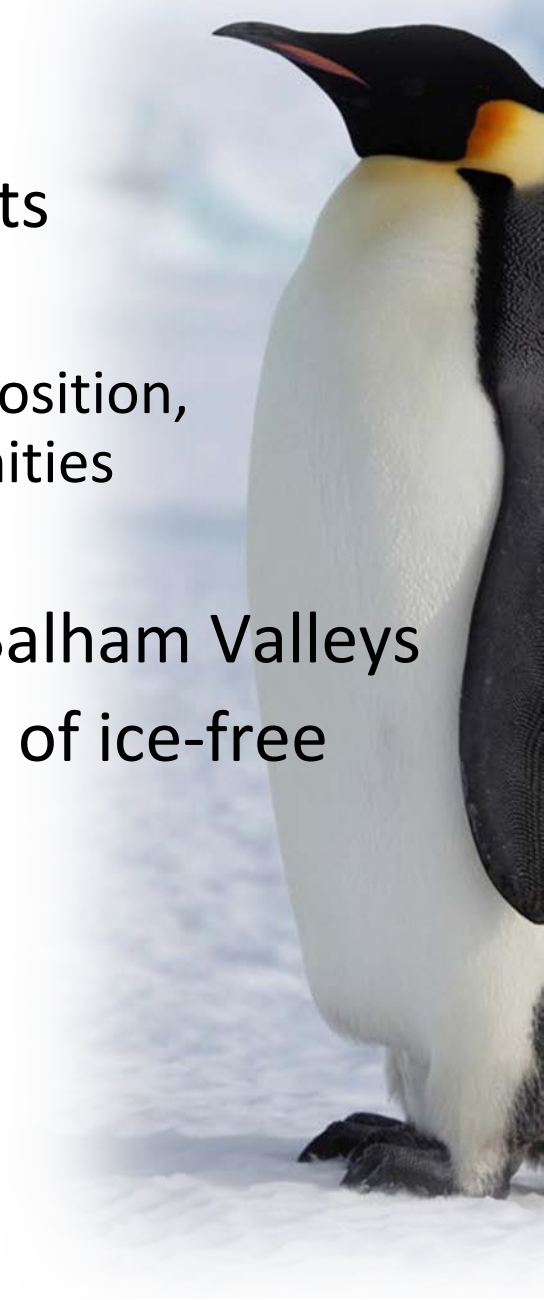
ASMA and ASPA location data from Environmental Research and Assessment (2011)

Spatial Coverage

- Largest ASPA - Western Bransfield Straits
- 1021 km^2 (0.005% of the SO[1])
  - Offers unique opportunities to study composition, structure and dynamics of marine communities

- Largest terrestrial ASPA - Barwick and Balham Valleys
- 423 km^2 (0.03% of the continent[2]; 0.9% of ice-free Antarctica[3])
  - Rarely visited important reference area

- [1] 20,327,000 km^2
- [2] 13,829,430 km^2
- [3] 46,000 km^2



3. Pressures on Antarctica are increasing

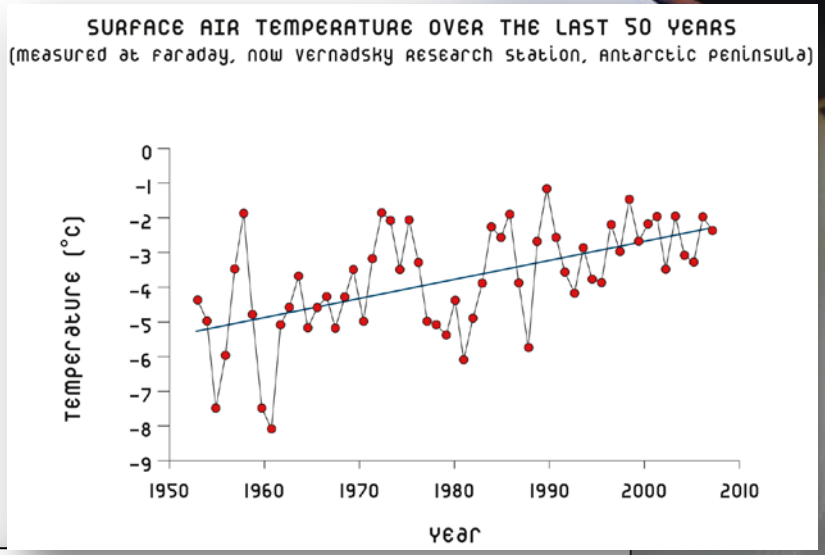
Changing context

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. Ferrigno[2]

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.



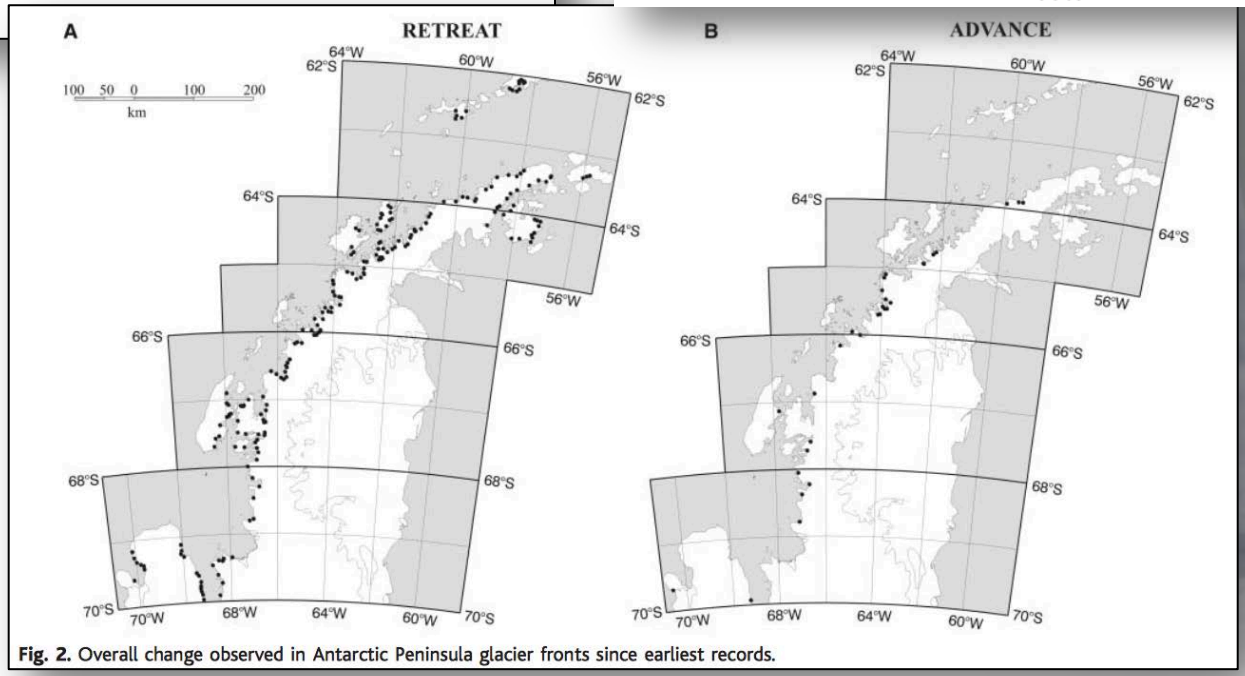


Fig. 2. Overall change observed in Antarctic Peninsula glacier fronts since earliest records.

Changing context

NORWEGIAN POLAR INSTITUTE

Polar Research

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 Uría s/n, ES-33071 Oviedo, Spain

Changing context

A Nonmarine Source of Variability in Adélie Penguin Demography

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

Oceanography | Vol. 26, No. 3

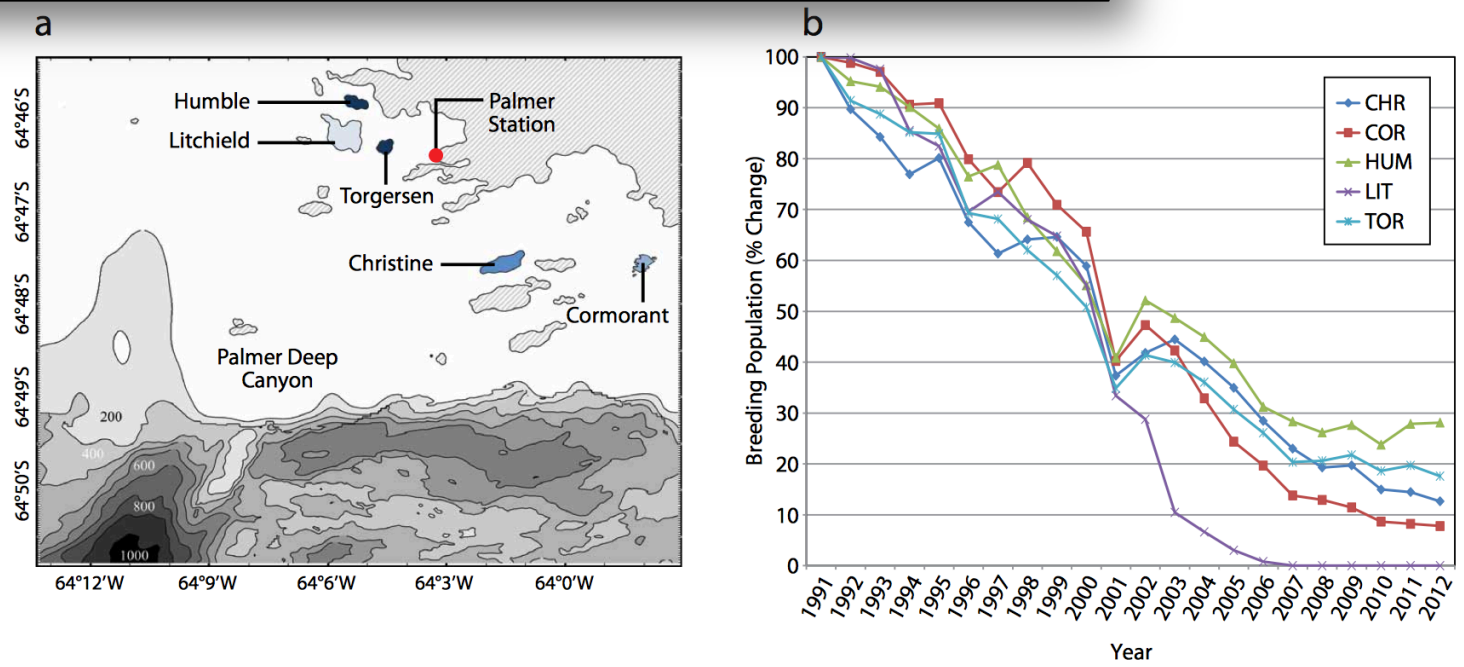
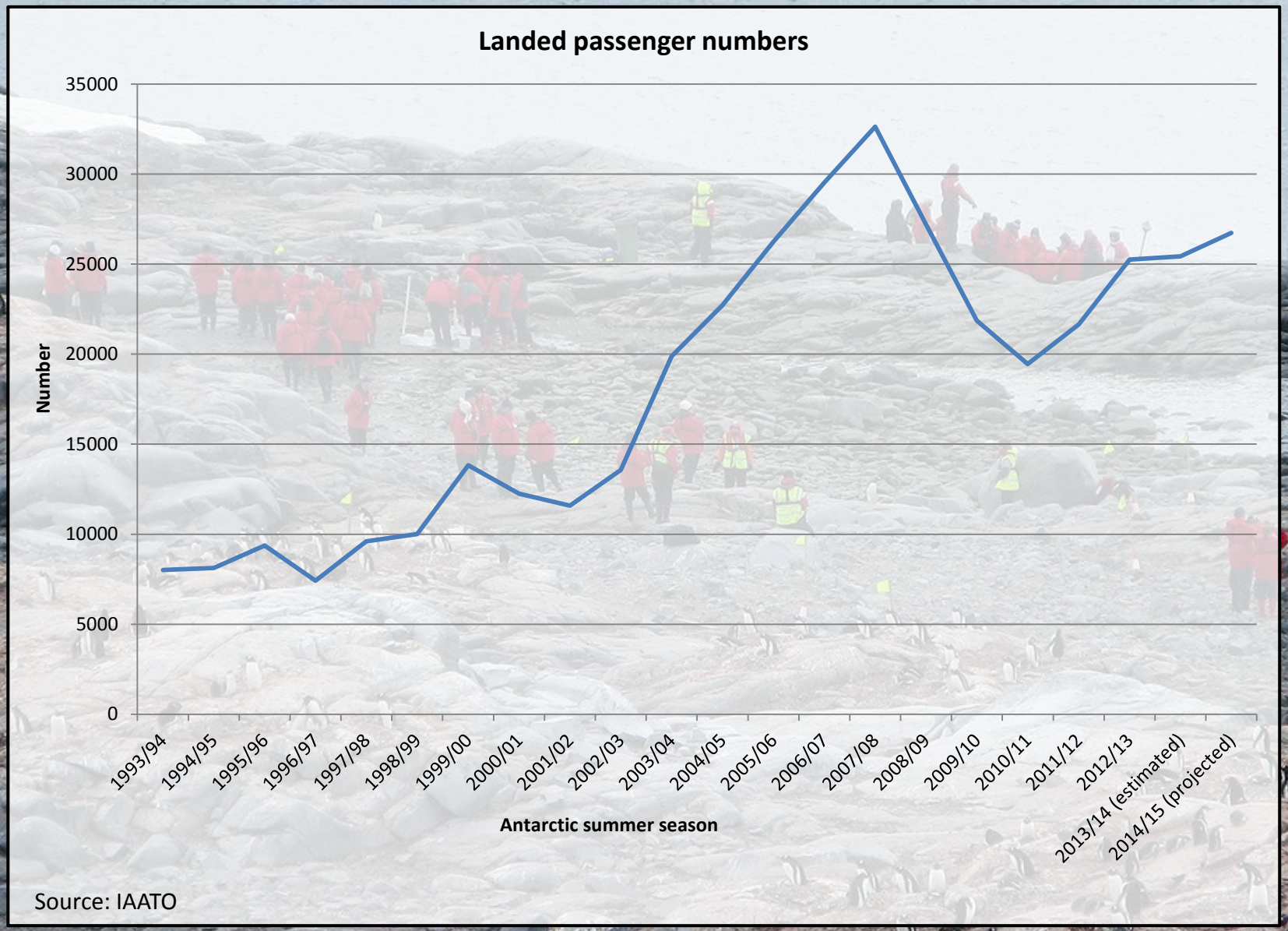


Figure 1. (a) Palmer Station, Antarctica, and vicinity showing the Palmer Deep Canyon and the five island populations of Adélie penguins. Island color shading from dark to light blue reflects an increasing percent of island-specific suboptimal penguin breeding habitat. (b) The islands' respective population 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) x 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
Eretmoptera murphyi
Poa annua
Trichocera sp
Poa trivialis
Poa pratensis
Nassauvia magellanica
See Inset
ANTARCTIC PENINSULA STATIONS
Polar Stereographic Projection
Scale : 1:35,000,000 at 71°S
Winter station
(not necessarily occupied every winter)
Map: Australian Antarctic Division

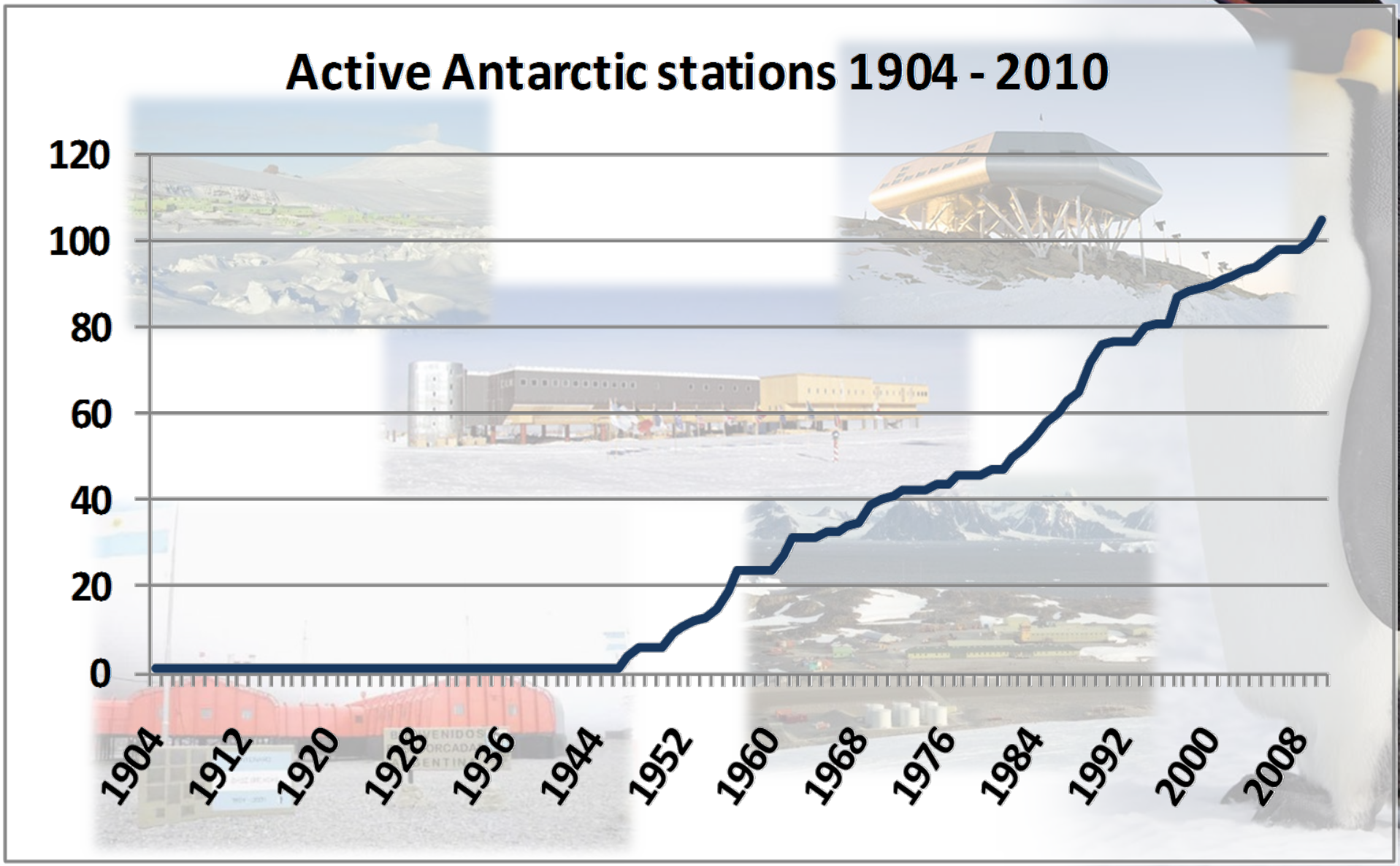
Changing use



Source: IAATO

Image: asoc.org

Changing use



A quick stocktake

Strengths

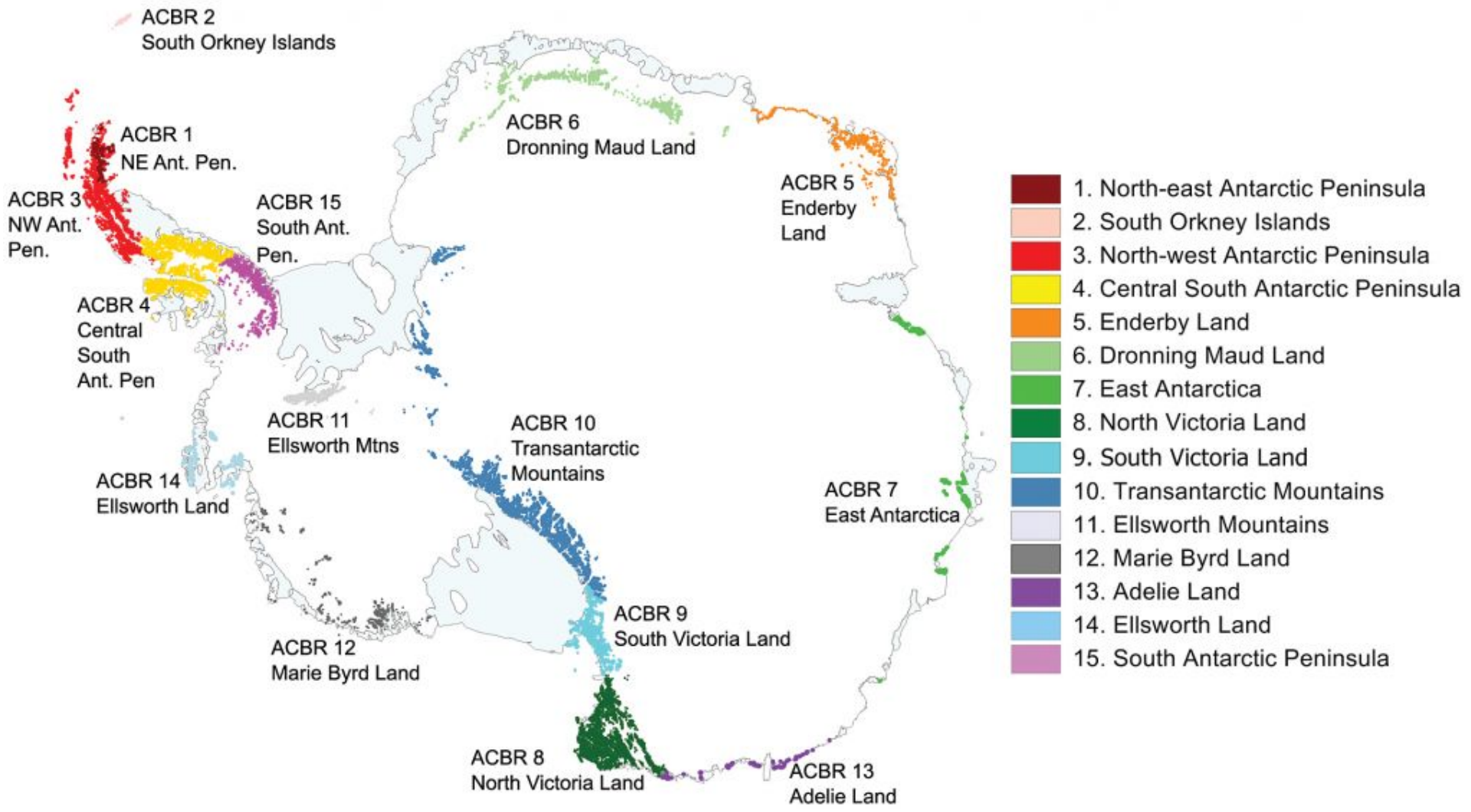
- Approval and review process
- Management plan quality

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



Terauds *et al* 2012

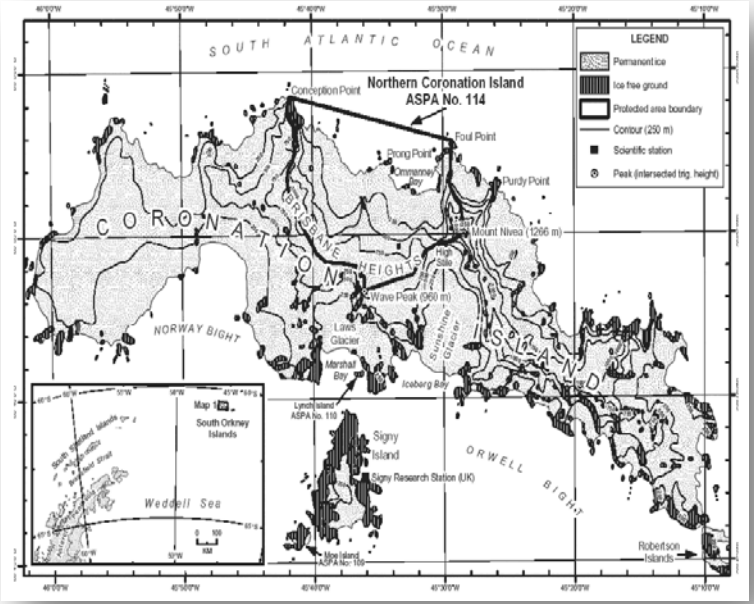
Growing Flexibility?

- 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

- 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

Supporting wise management in a period of significant change

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 challnges 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?