

The Antarctic Treaty and the protection of the environment

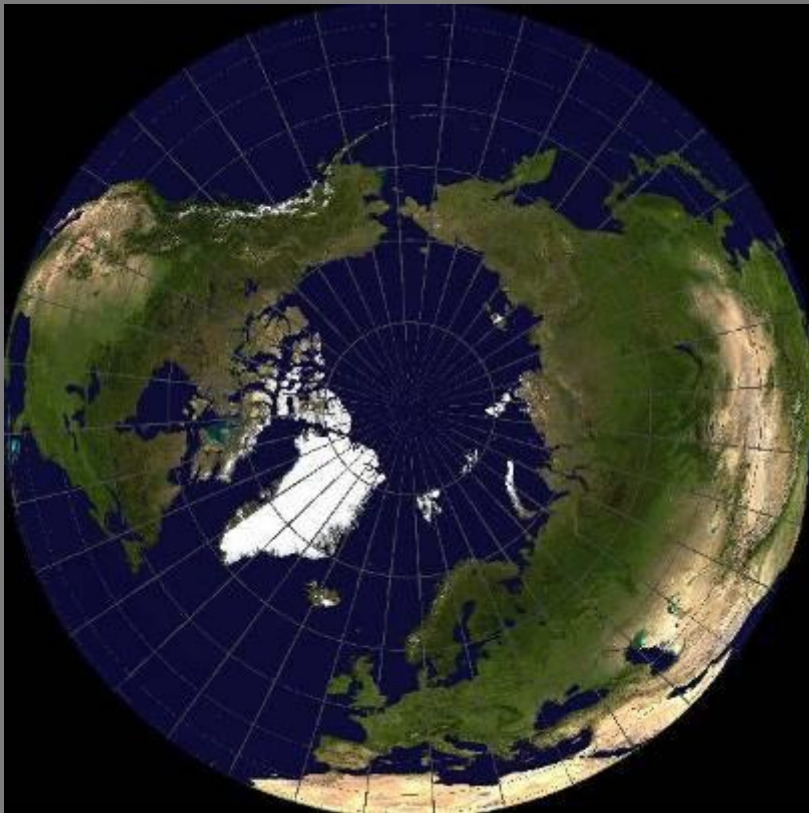
Yves Frenot

*Director of the French Polar Institute
Former Chair of the CEP (2010-2014)*

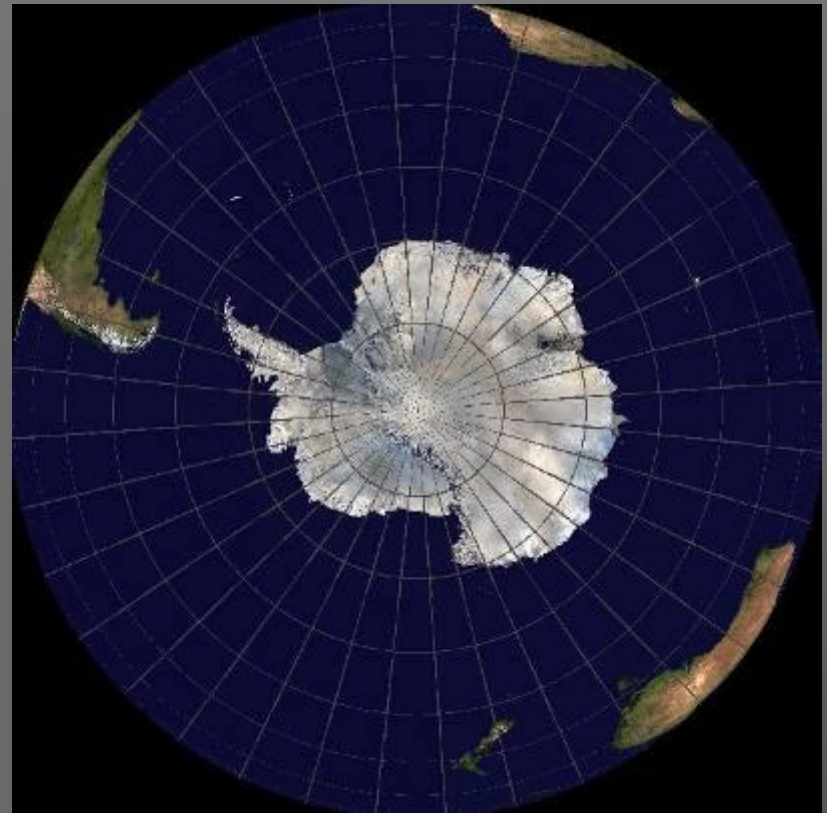
Webinar : 14:00-15:00 UTC, Monday 23rd October 2017

North Pole / South Pole

two opposite worlds

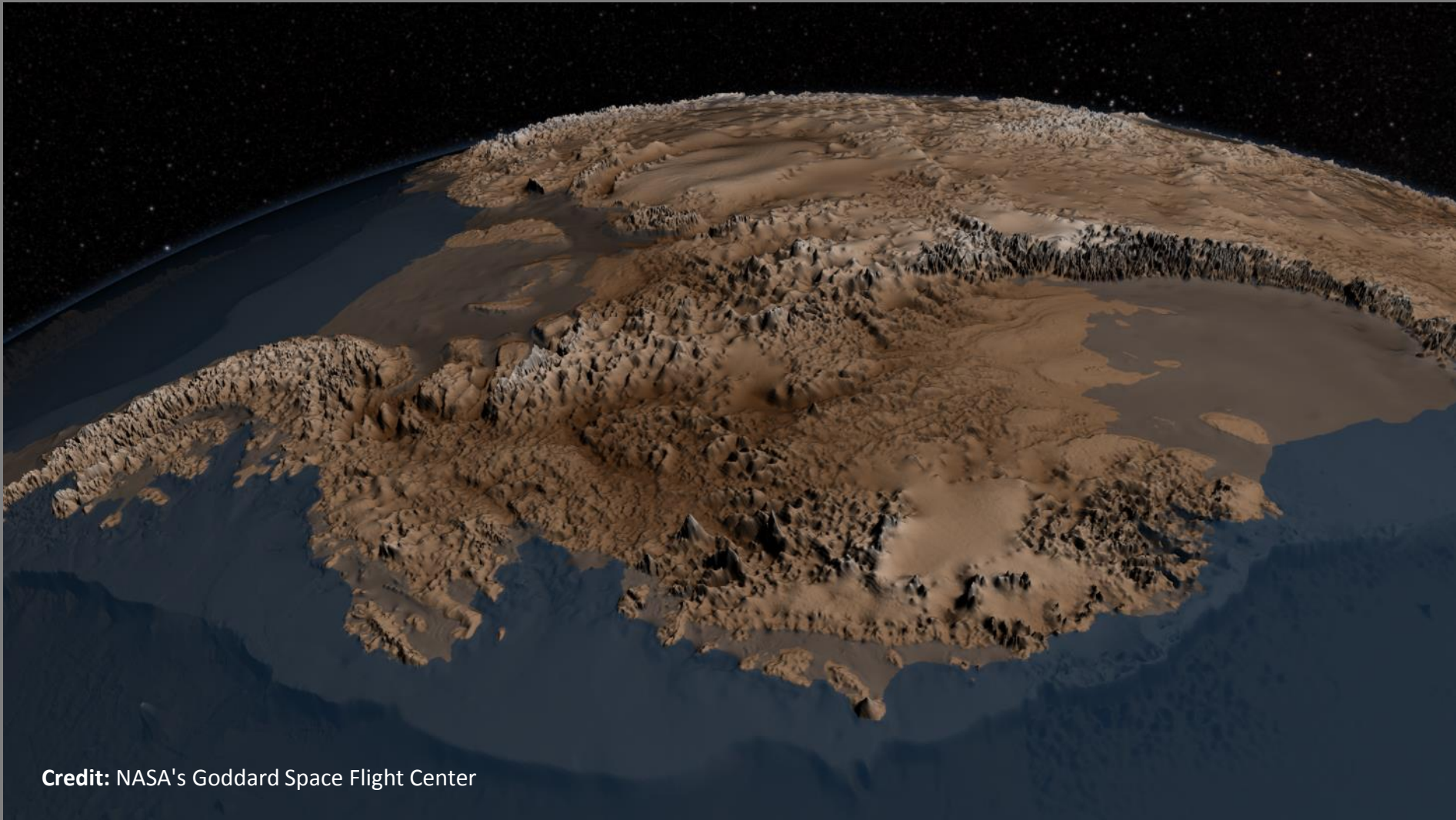


An ocean



A continent

From space: Antarctica is a white surface...

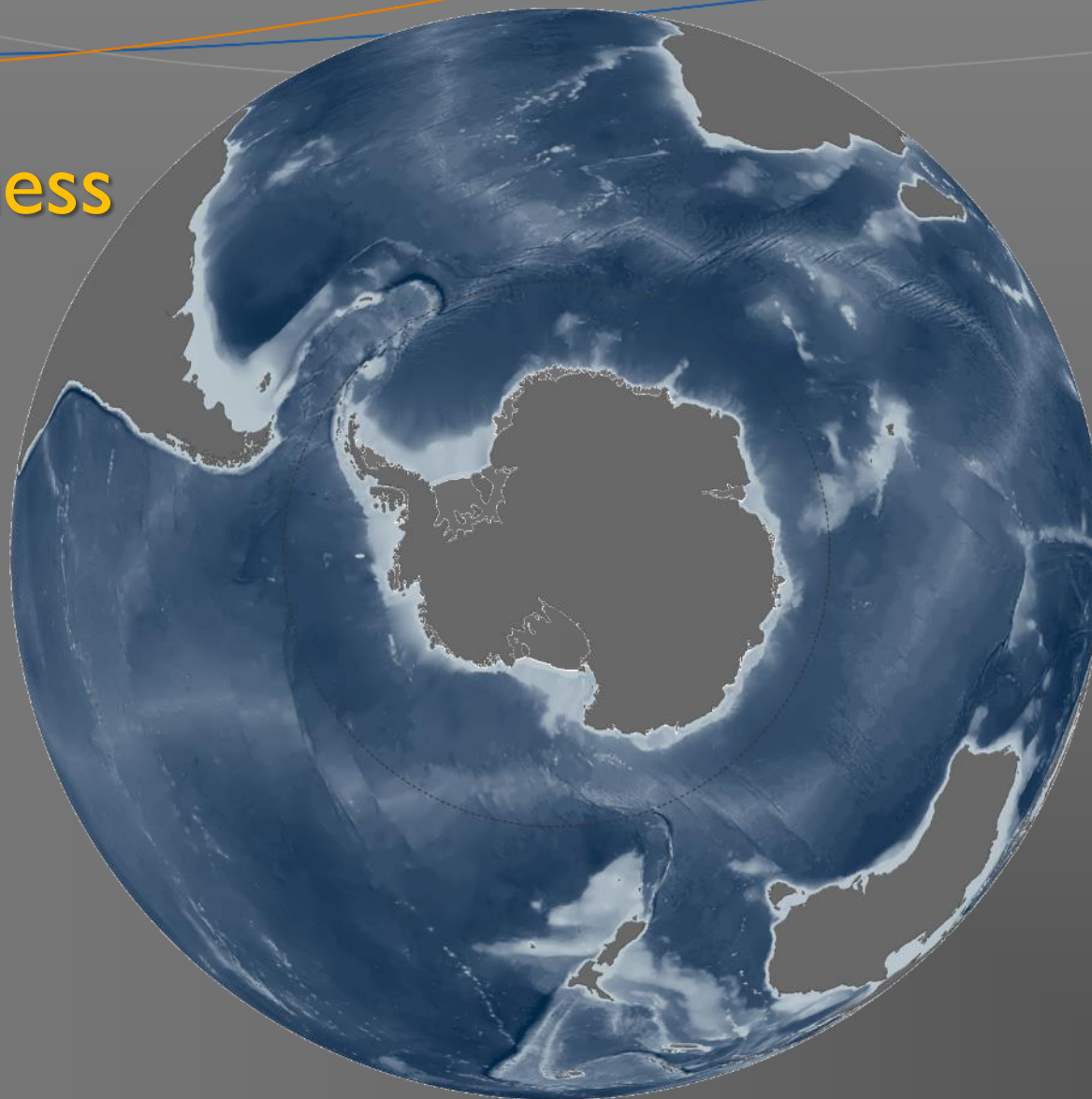


Credit: NASA's Goddard Space Flight Center

...but a huge continent, 14 M km²

EPB-APECS Webinar
23 October 2017

Remoteness



NOAA Climate.gov

Map by NOAA climate.gov, based on bathymetry data from NASA's Blue Marble
(<https://www.climate.gov>)

EPB-APECS Webinar
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Late discovery



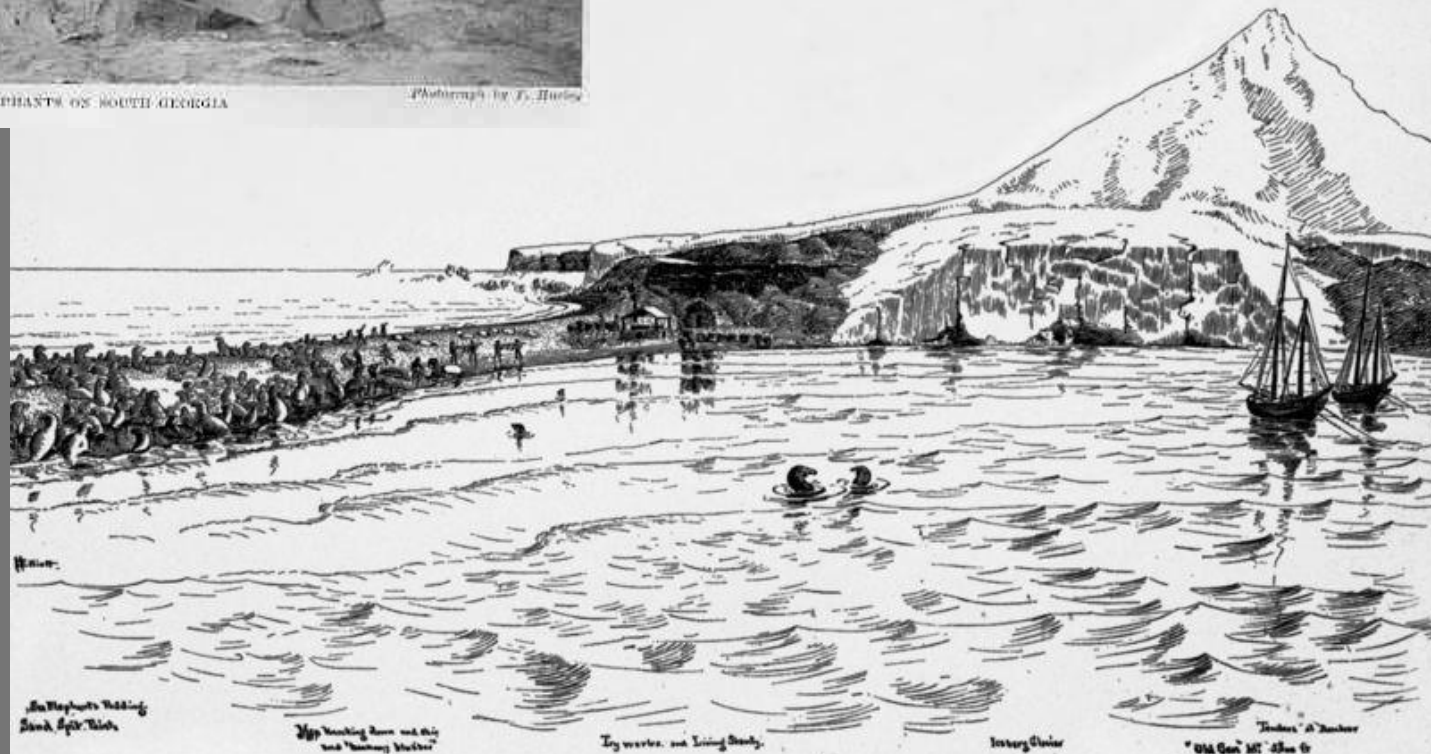
Dumont d'Urville, 1840

Elephant seal, fur seal and whale hunting



SEA ELEPHANTS OF SOUTH GEORGIA

Photograph by F. Hurley



THE ANTARCTIC SEA-ELEPHANT FISHERY.

Working sea-elephants at Northeast Point, Herd's Island. (Sect. v, vol. ii, pp. 419, 435.)

Drawing by H. W. Elliott, after Capt. H. C. Chester.

Mineral resources? Unknown

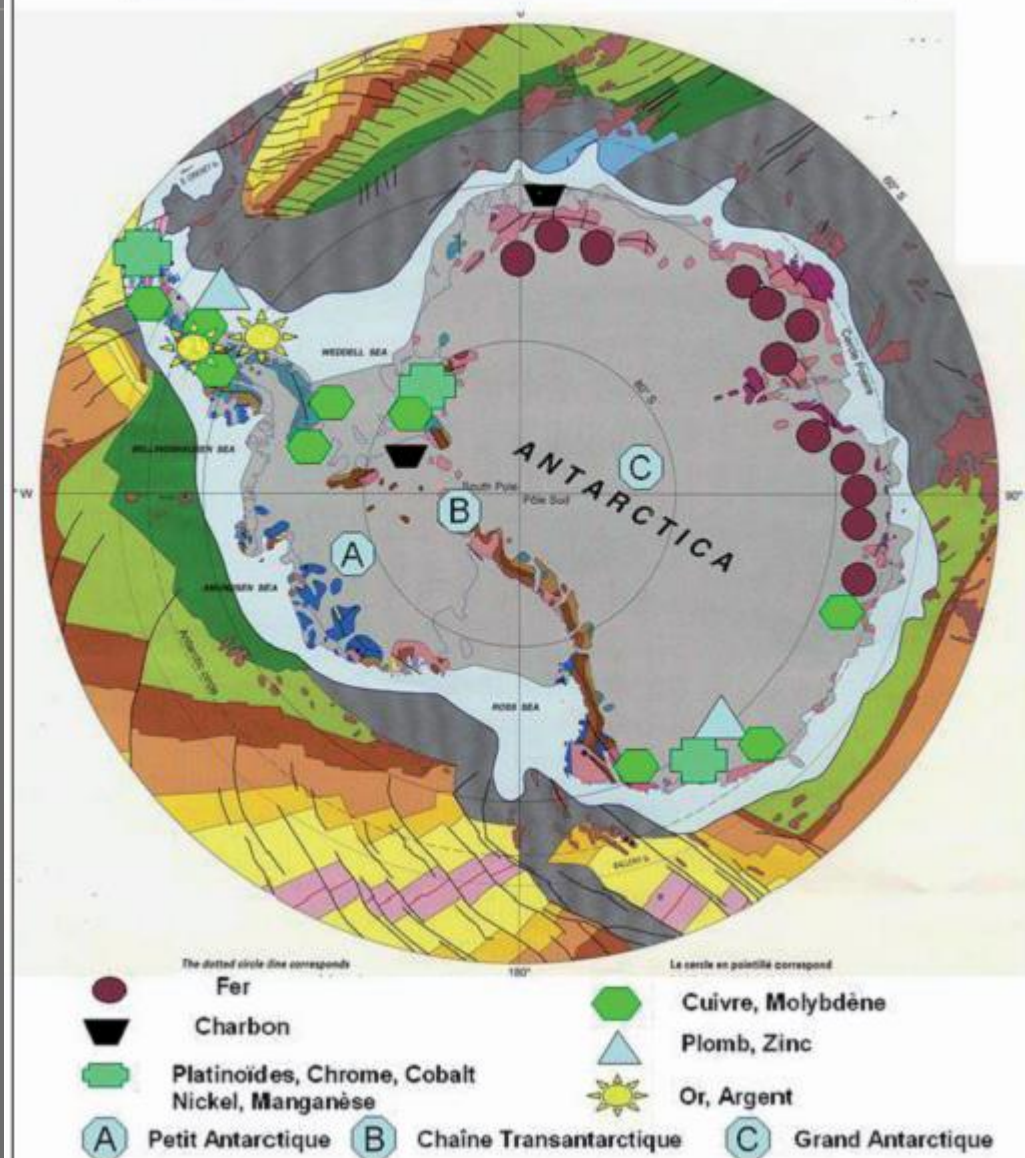
Géo-positionnement des cratons actuels
dans le supercontinent du Gondwana reconstitué



Sources : compilation de documents géologiques divers (USGS...)

Heberlé & Hocquard, Ecomine, juin 2006

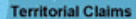
Principaux indices minéraux connus de l'Antarctique



Sources : compilation de la carte géologique du monde et de documents USGS

Territorial Claims and CCAMLR Statistical Reporting Subareas

Produced by the Australian Antarctic Data Centre
Published November 2004 Map Catalogue No: 13111



The northern extent of territorial claims is the coastline of Antarctica. The extension of the claims to 60 degrees south is for illustrative purposes only.

- Adélie Land (France)
- Chilean Antarctica
- British Antarctic Territory
- Argentine Antarctica
- Australian Antarctic Territory
- Dronning Maud Land (Norway)
- Ross Dependency (New Zealand)
- Unclaimed
- CCAMLR Statistical Reporting Subarea 88.1
- Ice shelf, ice tongue
- Australian Winter Station

For information about data sources used in this map refer to:
http://aadc-maps.aad.gov.au/aadc/mapcat/display_map.cfm?map_id=13111

A scale bar labeled 'Kilometres' with markings at 0, 500, 1000, 2000, and 3000.

Bathymetry

Metres

500
1000
1500
2000
2500
3000
4000
5000

A map of Australia with two dots marking the locations of Albany and Perth. Albany is on the southwest coast, and Perth is further east on the same coast. The word "AUSTRALIA" is written in capital letters below the map.

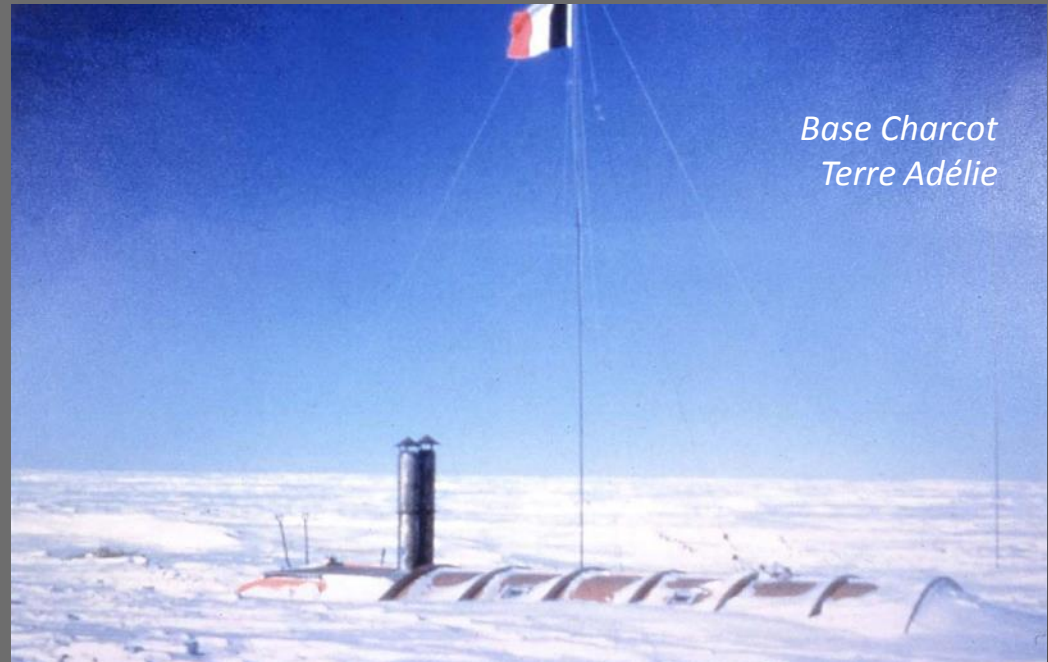
EPB-APECS Webinar
23 October 2017

International Geophysics Year (1957-1958)



- > 60 States
- 4 000 scientific organisations
- 25 000 scientists & technicians

Best conditions to make
Antarctica a continent
dedicated to Science



*Base Charcot
Terre Adélie*



Signature of the Antarctic Treaty 1st December 1959, Washington



*Entry into force on
June 23th, 1961*

Argentina
Australia
Chile
France
New Zealand
Norway
United Kingdom

Belgium
Japan
Soviet union
South Africa
United States

In 2017
53 Parties
29 Consultative Parties

Territorial claims: *statuquo* (Art. IV)

No renunciation of previously asserted rights of or claims to territorial sovereignty in Antarctica;

No acts or activities shall constitute a basis for asserting, supporting or denying a claim to territorial sovereignty in Antarctica

No new claim, or enlargement of an existing claim, to territorial sovereignty in Antarctica shall be asserted while the present Treaty is in force.



A continent dedicated to Peace

Any measures of a military nature, such as the establishment of military bases and fortifications, the carrying out of military maneuvers, as well as the testing of any types of weapons, are prohibited (Art. I)



Any nuclear explosions in Antarctica and the disposal there of radioactive waste material is prohibited (Art. V)



A continent dedicated to Science

Freedom of scientific
investigation in Antarctica
Station settlement



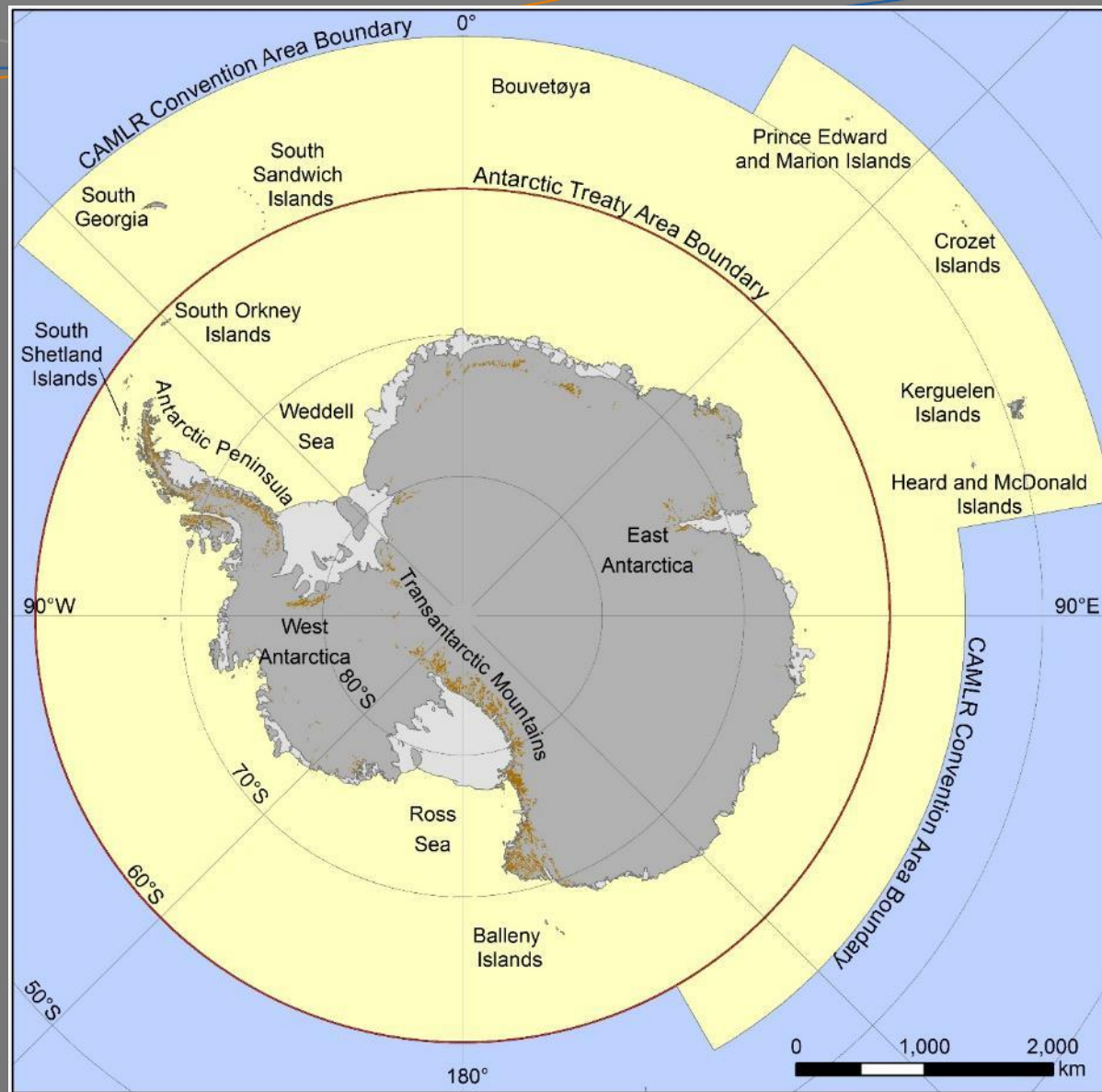
International cooperation in
scientific investigation:

- information exchange,
- personnel exchange,
- scientific observations and results exchange.



The Antarctic Treaty System (ATS)

- Conservation of Antarctic Seals (London 1972)
- Conservation of Antarctic Marine Living Resources (Canberra 1980)(CCAMLR)
- Convention for the Regulation of Antarctic Mineral Resource Activities (Wellington 1988) – never ratified
- Protocol on Environmental Protection to the Antarctic Treaty or Madrid Protocol (Madrid 1991)



Hughes et al. submitted

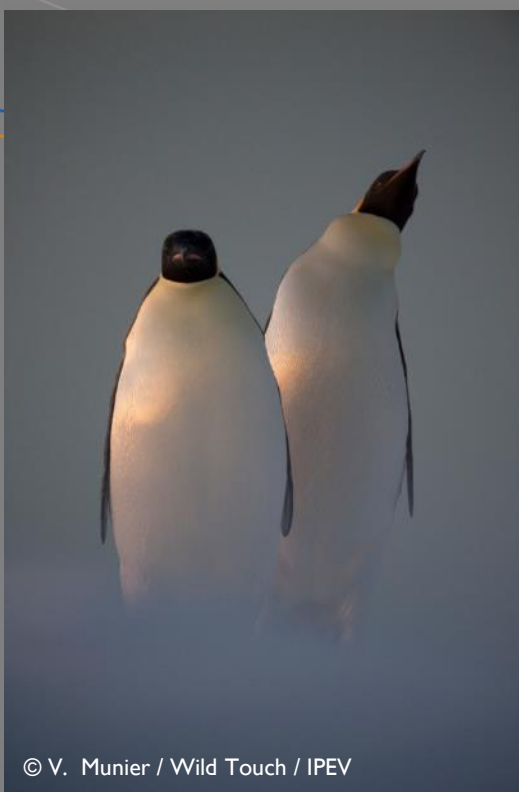
The provisions of the Antarctic Treaty apply to the area south of 60° S
The CCAMLR area is wider, the Northern limit being close to the Polar Front

Protocol on Environmental Protection to the Antarctic Treaty

Madrid, 4th october 1991

designates Antarctica as a natural reserve,
devoted to peace and science

(Article 2)



© V. Munier / Wild Touch / IPEV

There is no expiration date
for the Protocol

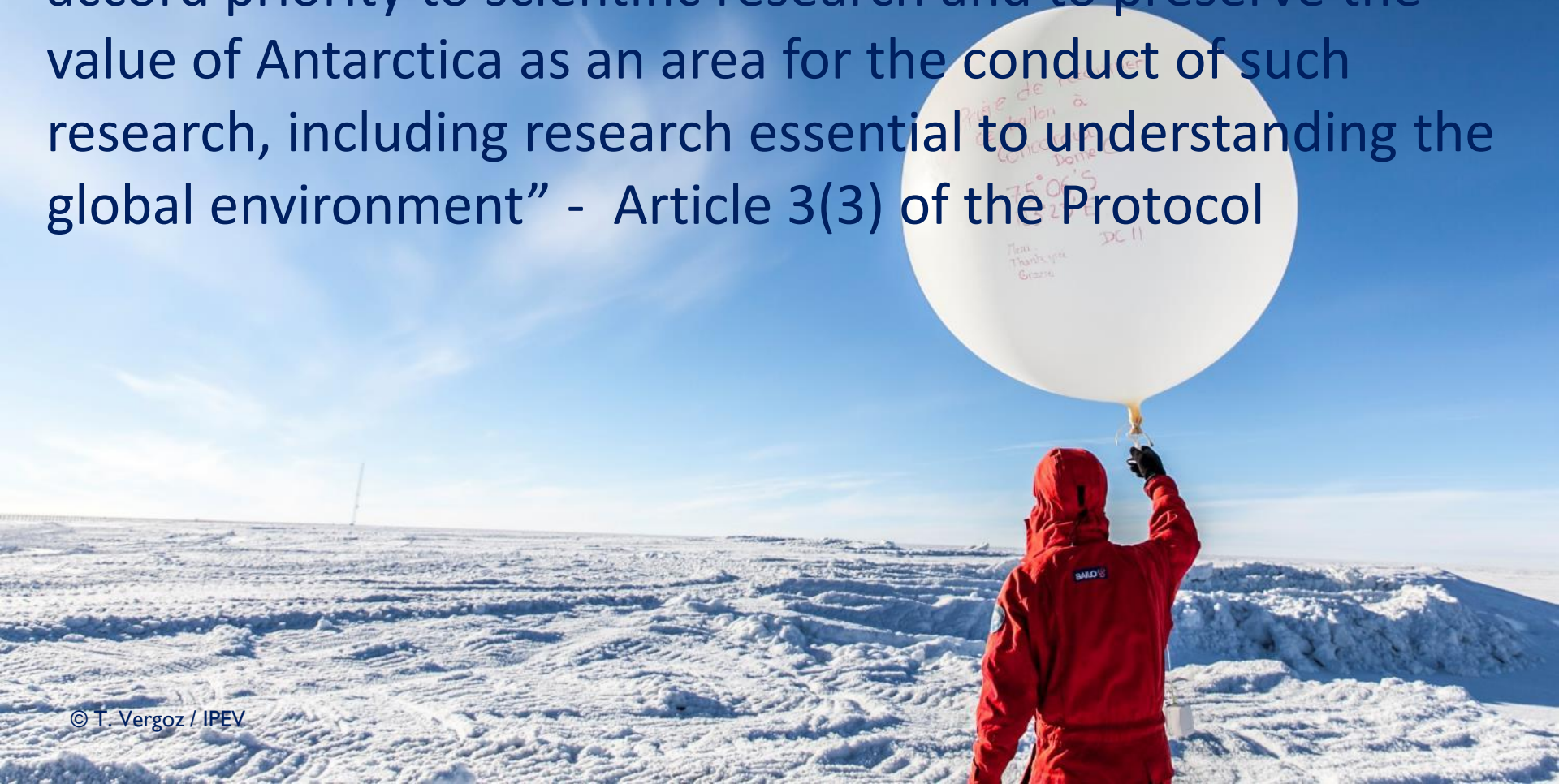
*Entry into force on
January 14th, 1998*



© L. Ballesta / Wild Touch / IPEV

Preserving antarctica's science value

“Activities shall be planned and conducted.....so as to accord priority to scientific research and to preserve the value of Antarctica as an area for the conduct of such research, including research essential to understanding the global environment” - Article 3(3) of the Protocol



Protocol - Article 7

Prohibition of Mineral Resource Activities

Any activity relating to mineral resources, other than scientific research, shall be prohibited.



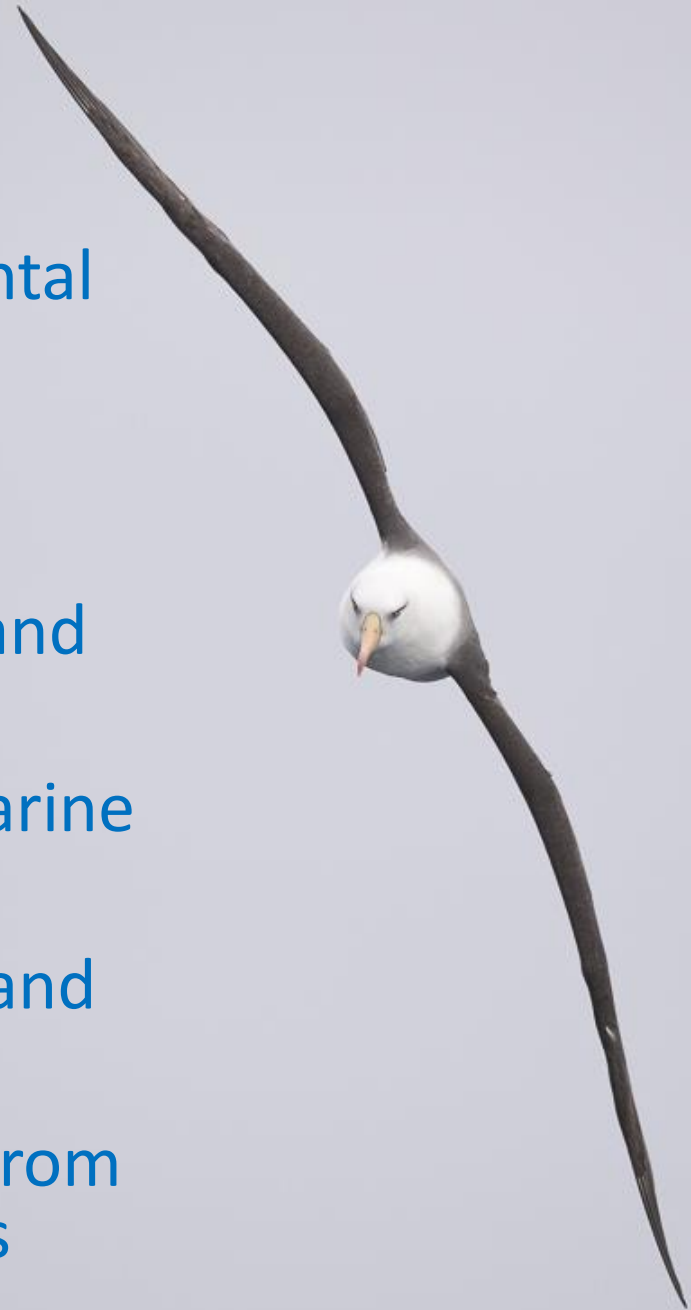
Protocol - Article 25

The protocol has no end

1. The Protocol may be modified or amended at any time by unanimous agreement of the CP
2. After 50 years (2048), if any CP so requests, a **conference shall be held** to review the operation of the Protocol
3. A modification or amendment needs a majority of the CP, incl. 3/4 of the CP in 1991 (26 Consultative CP in 1991) for adoption → **20 States minimum**
4. A modification or amendment adopted shall enter into force upon ratification by 3/4 of CP (29 CP in 2017), incl. ratification by all the CP in 1991 → **26 States minimum**
5. In any case, the **prohibition on Antarctic mineral resource activities shall continue unless** there is in force a **binding legal regime** on Antarctic mineral resource activities that includes an agreed means for determining whether, and if so, under which conditions, any such activities would be acceptable

6 ANNEXES

- Annex I – Initial environmental evaluation
- Annex II - Conservation of Antarctic fauna and flora
- Annex III – Waste disposal and waste management
- Annex IV - Prevention of marine pollution
- Annex V – Area protection and management
- Annex VI – Liability arising from Environmental Emergencies



Annex I. Environmental Impact Assessment

Description of the activity

Impact less than
minor or transitory ?

no

Initial Environmental
Evaluation (IEE)

Impact minor or
transitory ?

no

Comprehensive
Environmental
Evaluation (CEE)

Impact more than
minor or transitory

- Public (nationally and internationally)
- Evaluation by CEP and ATCM

y
e
s

y
e
s

Declaration/
may proceed

Authorisation

Authorisation

Annex I: Example of Initial Environmental Evaluation



Scientific activities



Tourism

Annex I: Example of Comprehensive Environmental Evaluation



New station



Deep ice core drilling

Annexe II : conservation flora and fauna

Taking or harmful interference shall be prohibited, except in accordance with a permit



No species of animal or plant not native to the Antarctic Treaty area [...] except in accordance with a permit

Annex III - Waste disposal and management



Wastes must be removed
from Antarctica



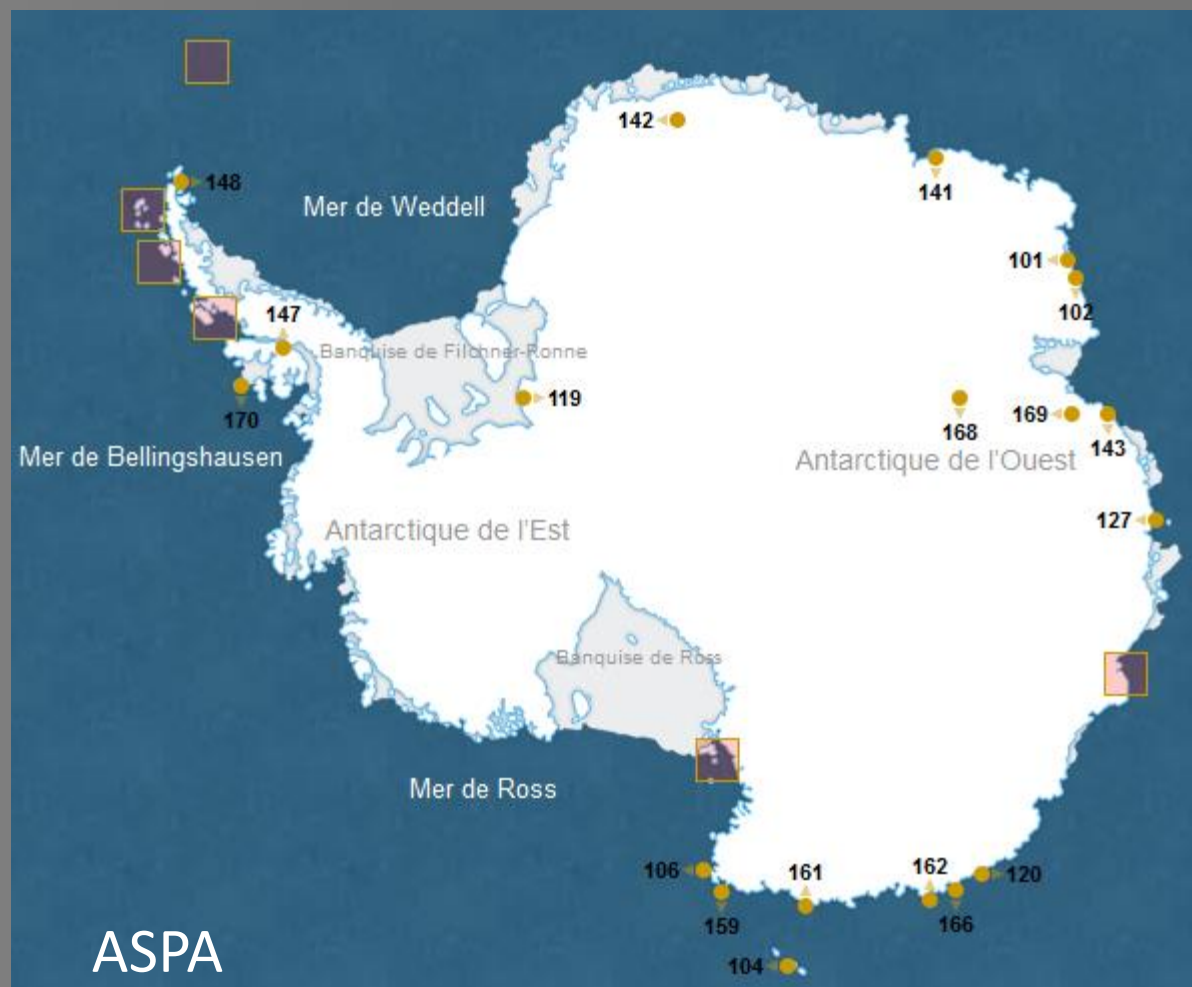
Annex IV : Prevention of marine pollution



Photo K. Pierre / IPEV

Annex V

Protected Areas, Managed Areas, Historic Sites and Monuments



ASMA ▲

▼ HSM

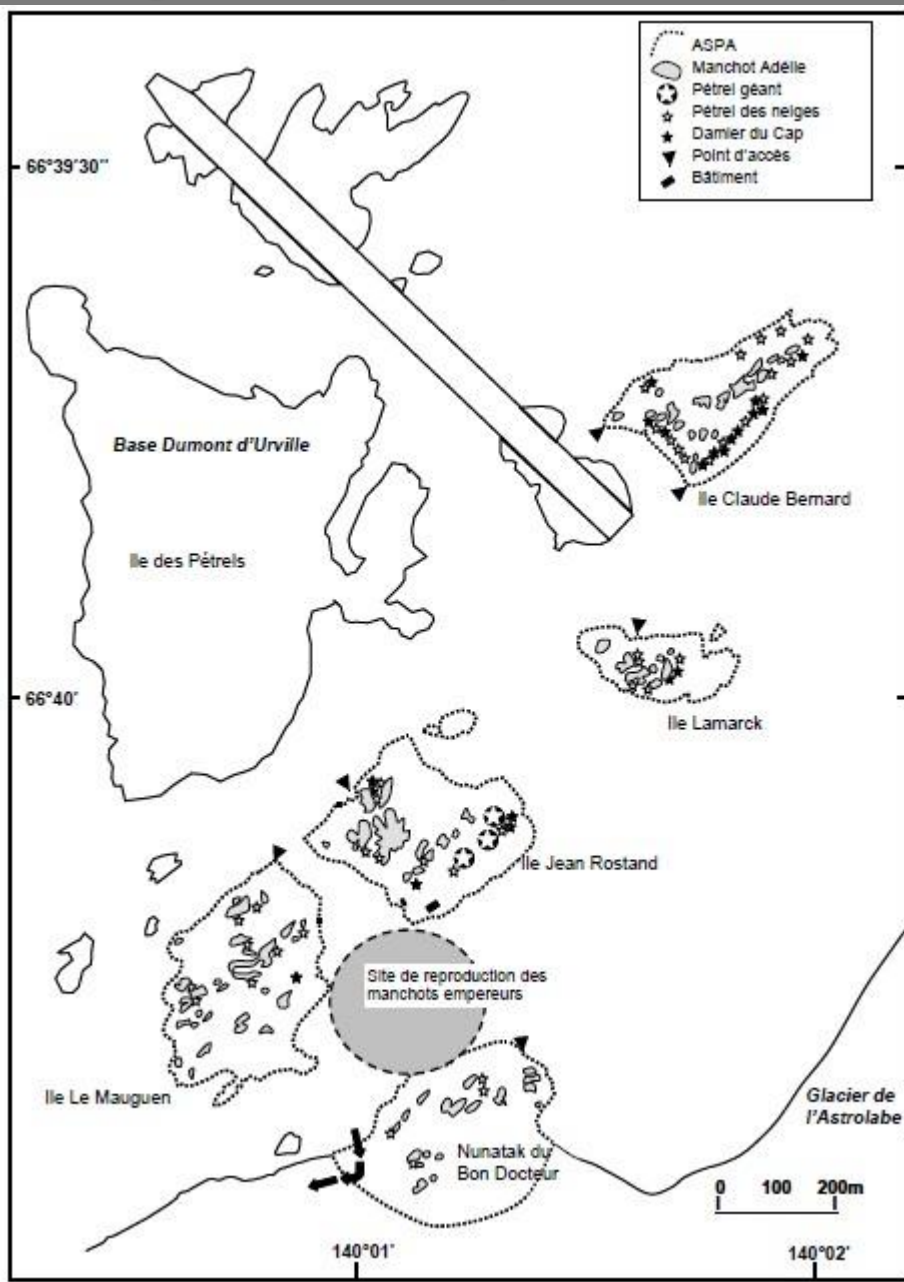


ASPА n° 120

Archipel de Pointe-Géologie

→ Management Plan

Permits needed to
enter in an ASPA



Annex VI : Liability



Exxon-Valdez, 1989, Alaska

Photo courtesy of the Exxon Valdez Oil Spill Trustee Council

The Committee for Environmental Protection (CEP)



The functions of the CEP shall be to provide advice and formulate recommendations to the Parties in connection with the implementation of the Protocol for consideration at ATCMs (Article 11)

Role of the CEP

Provide advice and formulate recommendations to the Antarctic Treaty Parties, including on:

- (e) means of **minimising or mitigating environmental impacts** of activities in the Antarctic Treaty area;
- (g) the operation and further elaboration of the **Antarctic Protected Area system**;
- (i) the **collection, archiving, exchange and evaluation of information** related to environmental protection;
- (j) the **state of the Antarctic environment**; and
- (k) the **need for scientific research, including environment monitoring**, related to the implementation of this Protocol.

Article 12

The Committee for Environmental Protection (as off 2017)

- 39 Parties →
- 3 Observers:
SCAR, CCAMLR,
COMNAP
- Experts:
ASOC, IAATO, IHO,
IPCC, IUCN, UNEP,
WMO

Argentina	Monaco
Australia	Netherlands
Belarus	New Zealand
Belgium	Norway
Brazil	Pakistan
Bulgaria	Peru
Canada	Poland
Chile	Portugal
China	Romania
Czech Republic	Russian Federation
Ecuador	South Africa
Finland	Spain
France	Sweden
Germany	Switzerland
Greece	Ukraine
India	United Kingdom
Italy	United States
Japan	Uruguay
Korea (ROK)	Venezuela
Malaysia	

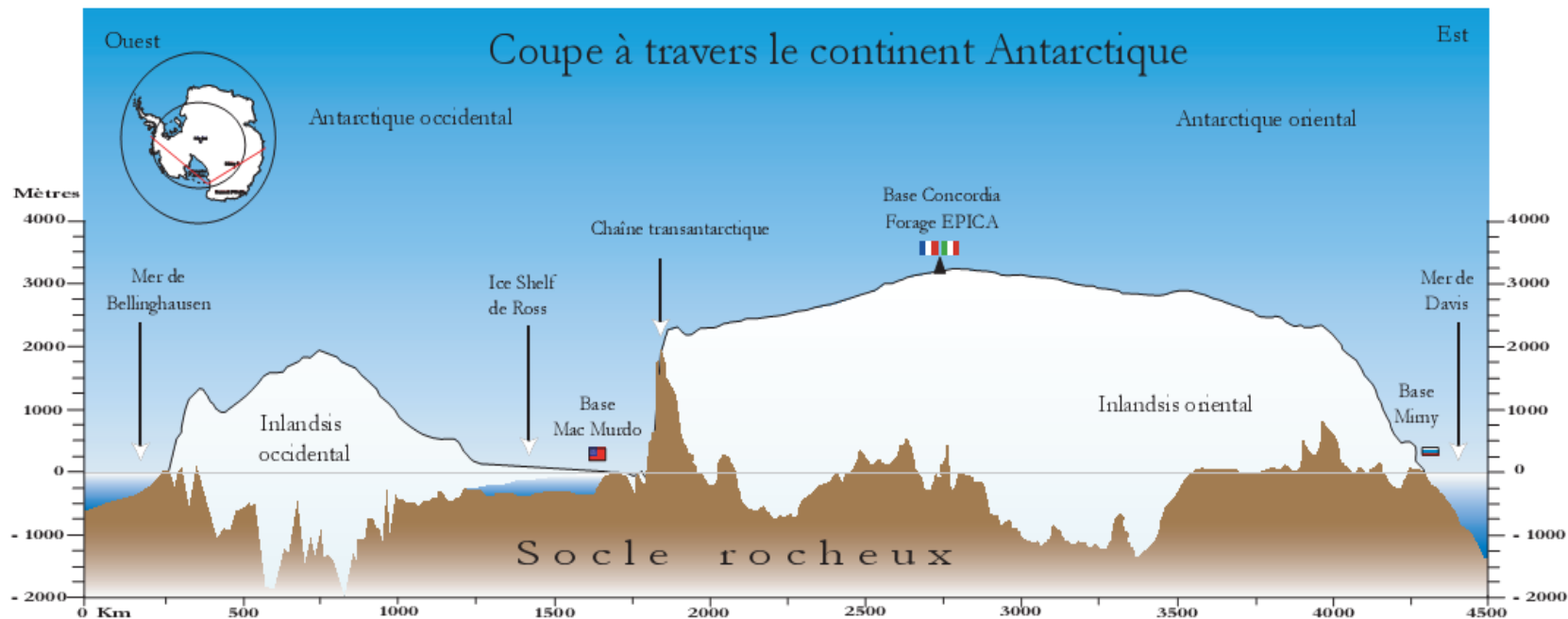
Challenges:

knowledge of Antarctic environment is incomplete
and situation is not static

The CEP's top priorities currently include:

- understanding and responding to the environmental consequences of **climate change** in the Antarctic region;
- addressing the risks to **biodiversity** associated with the introduction to Antarctica of **non-native species**, including the transfer of native species between bioregions within Antarctica;
- appropriately managing the environmental impacts of **tourism** and **non-governmental activities**; and
- improving the effectiveness of **protected area management**, and further developing the Antarctic protected area system.

Palaeoclimatology



Source : Frédérique RÉMY, LEGOS



Non-native species

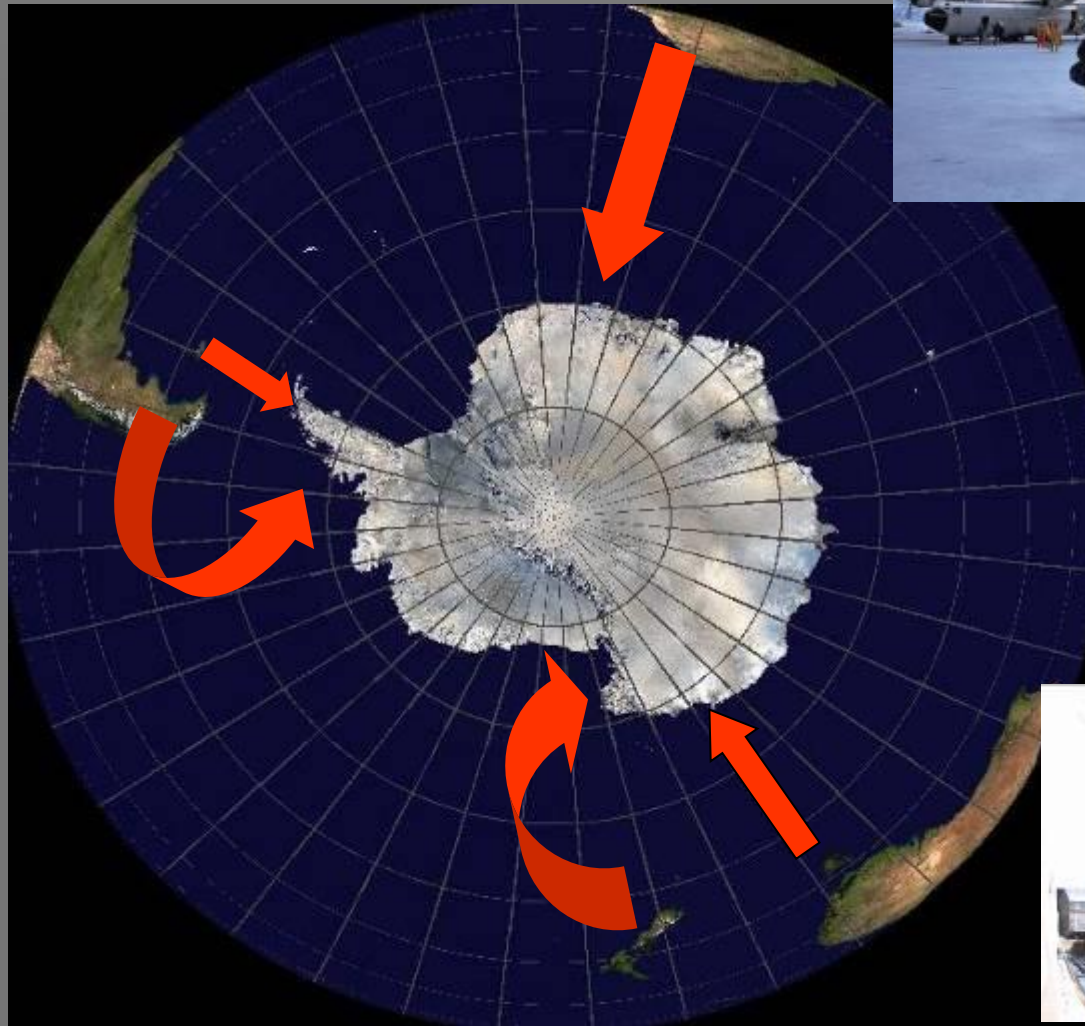


Nassauvia magellanica, isla Decepción -
Removed in 2010



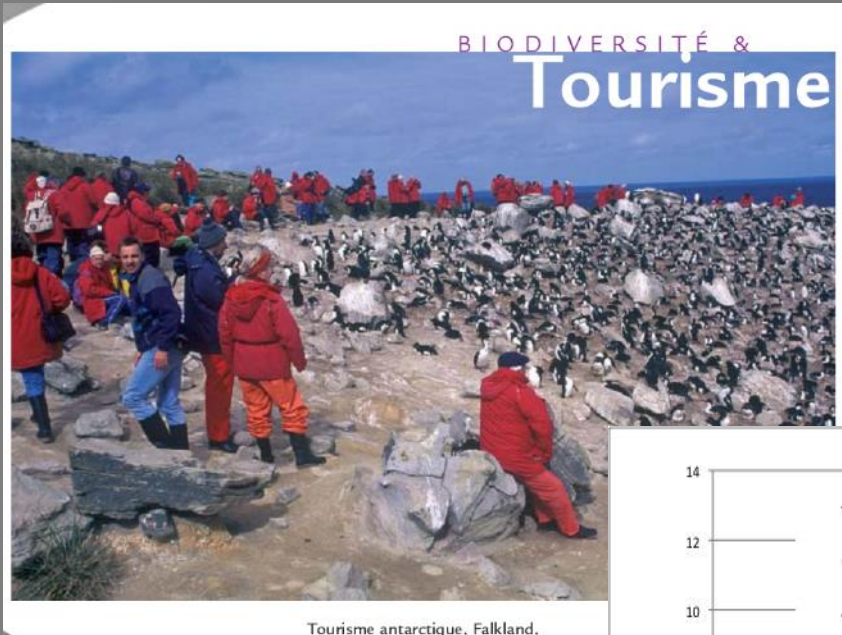
Hyas araneus, Antarctic Peninsula
Tavares & de Melo 2004

Propagule fluxes



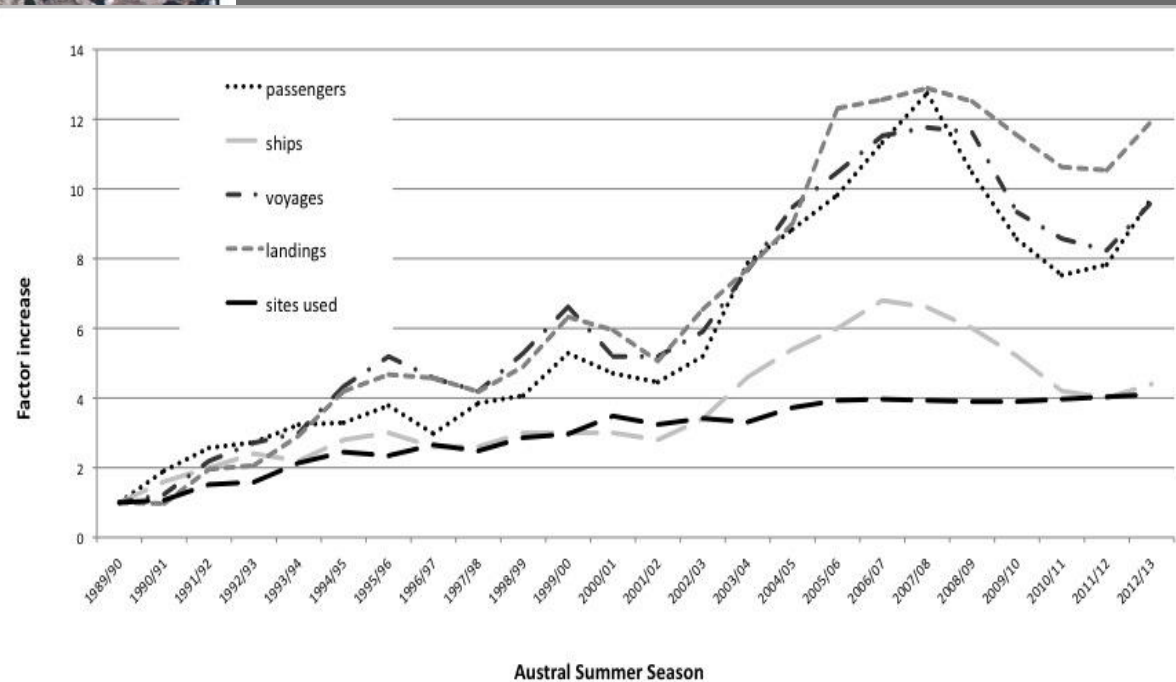
IPY Project « Aliens in Antarctica »

Increasing number of visitors



Up to 40 000 tourists a year
(between november and March)

principally in
the Antarctic
Peninsula



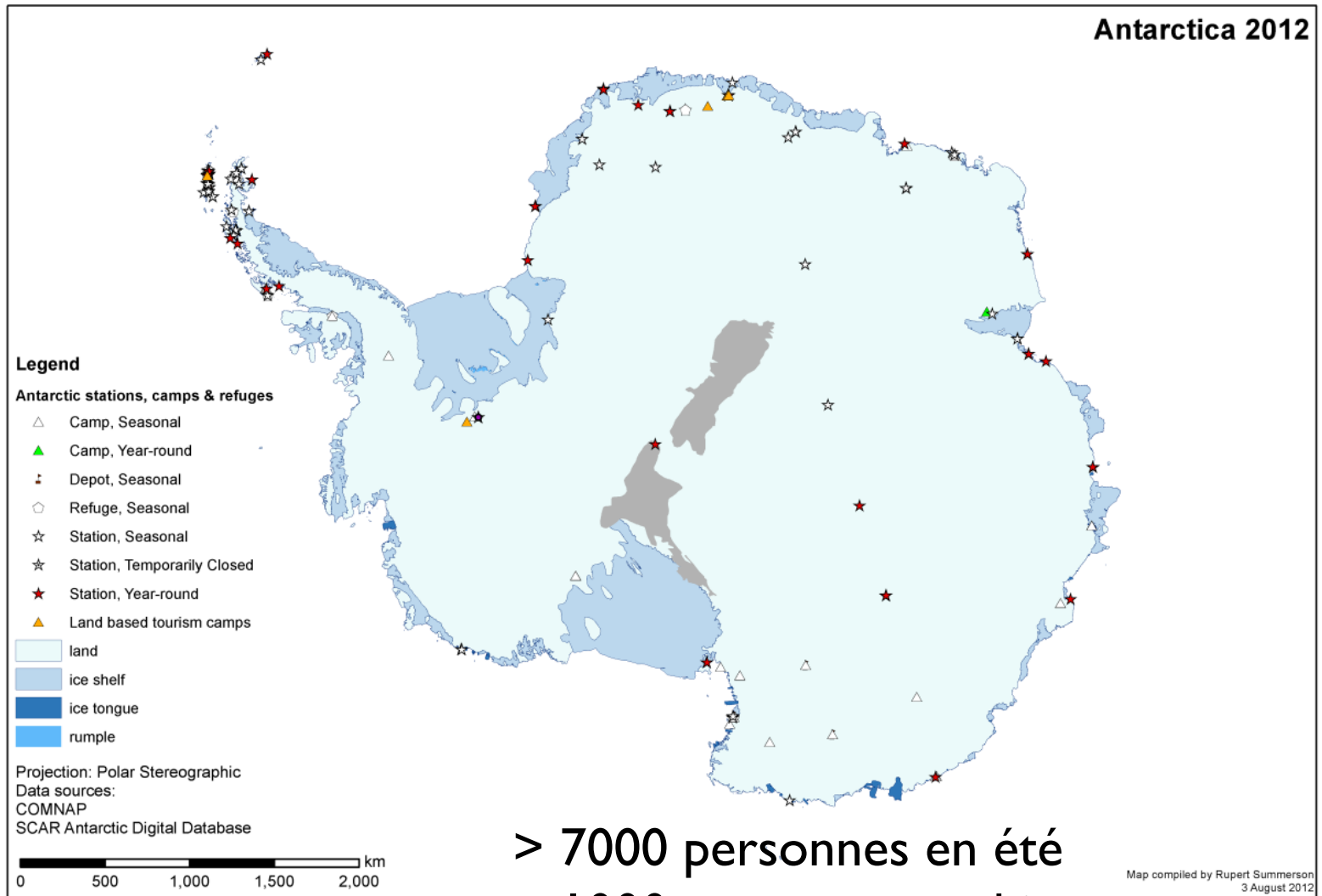
Latest Antarctic Tourism Figures

released by IAATO – 1st May 2017

	2017-2018 (Estimate ³)	2016-2017 Season	2015-2016 Season	2014-2015 Season	2013-2014 Season	2012-2013 Season
Seaborne tourism with landings ¹	35,973	33237	27,607	25,341	25,526	23,305
Seaborne tourism, no landings ²	6430	7475	8,109	9459	9670	9070
Air & cruise combination, with landings	3405	3203	2,353	1471	1848	1587
Air & land tourism, Antarctic interior	577	452	409	431	361	354
Total	46385	44367	38,478	36,702	37,405	34,316

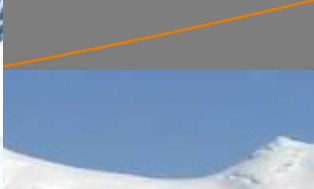


Programmes antarctiques nationaux



> 7000 personnes en été

< 1000 personnes en hiver



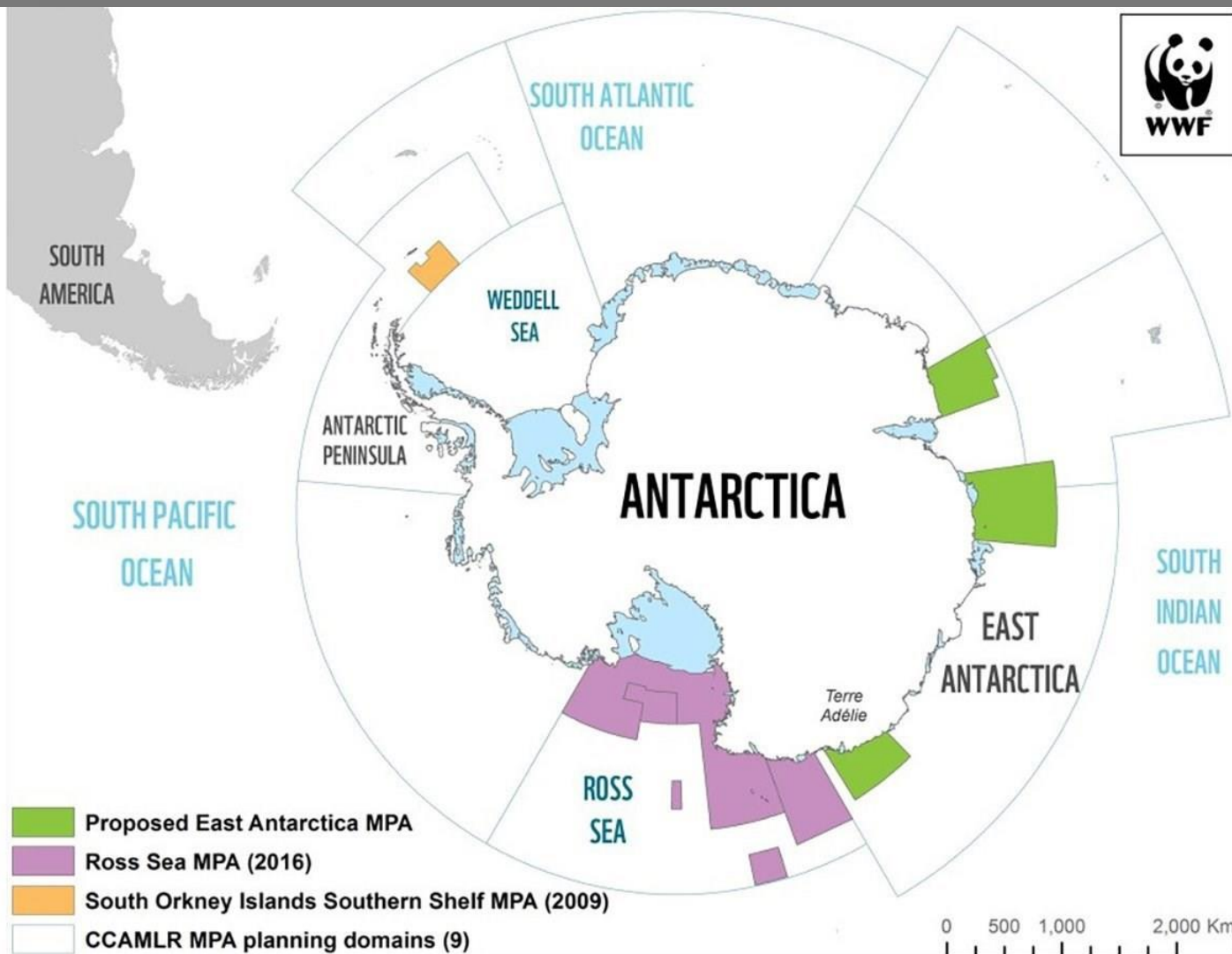


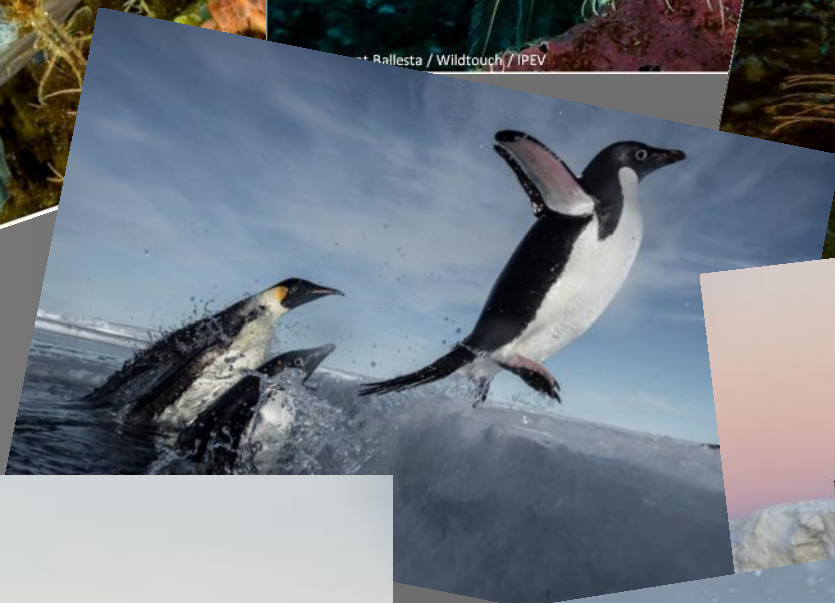
Explorer
23 Novembre 2007
Péninsule Antarctique

Penguin egg collecting – South Africa, early 20th century



Marine Protected Areas in Antarctica





Thank you for your attention

