The Antarctic Biodiversity Portal contributions to a marine virtual lab

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Biodiversity.aq
RBINS
HCMR, Crete

Antarctic Treaty

« In order to promote international cooperation in scientific investigation in Antarctica, […],

Scientific observations and results from Antarctica shall be exchanged and made freely available. »

Our vision: Antarctic biodiversity data are open, linked, useful, interoperable and safe.

Background

- Born during the IPY as Census of Antarctic Marine Life as the data, visualization and analysis component
- Free and open access to biodiversity data
- SCAR-MarBIN and ANTABIF projects
- Science, conservation and management
- Networked community developments

www.SCARMarBIN.be

biodiversity.aq

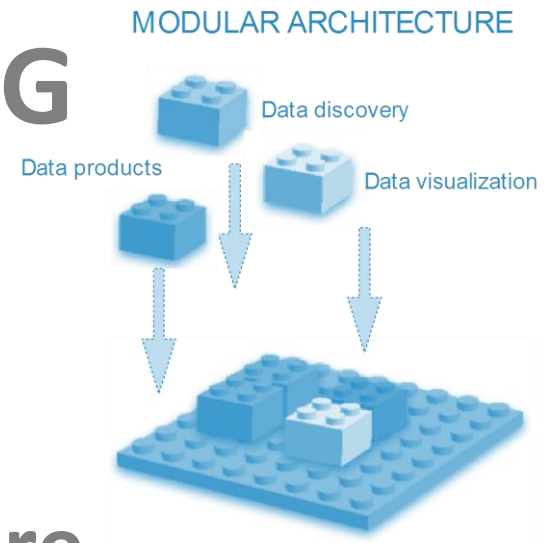
Architectural design & developments

DATA IPT

ATLAS WWW AFG

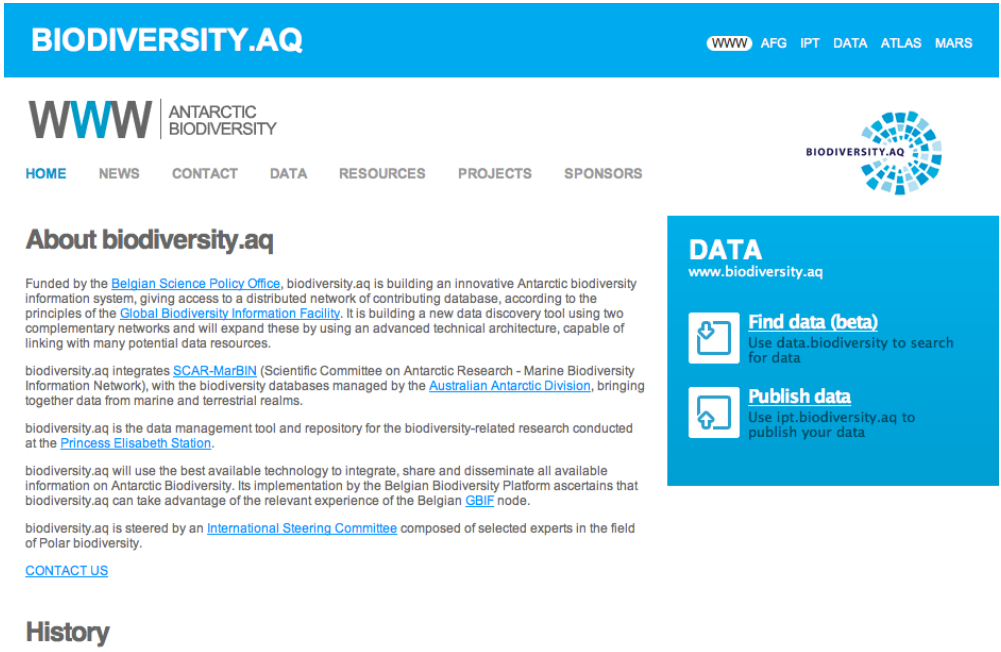
mARS

share



WWW.BIODIVERSITY.AQ

- General website
- latest news
- contact
- sponsors
- governance
- resources
- projects



IPT.BIODIVERSITY.AQ

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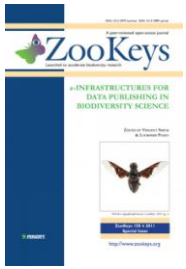
(meta)DATA → IPT → Data paper

DwC-A



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AMD

GBIF

OBIS
OCEAN BIOGEOGRAPHIC INFORMATION SYSTEM

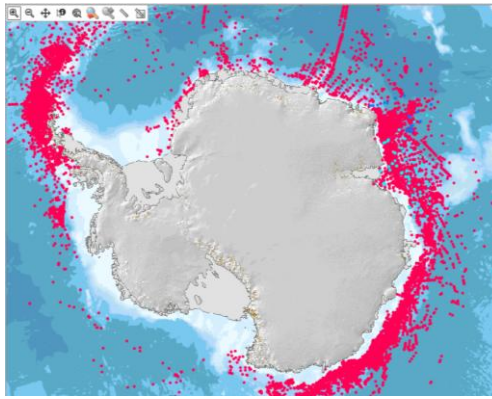
AADC

IPT

OCCURRENCE (INTERNAL WEB SERVICE)

HIT

DATA



Taxonomy

WoRMS
World Register of Marine Species

RAMS

FADA

EOL
Encyclopedia of Life

Environmental

TAXONOMY (INTERNAL WEB SERVICE)

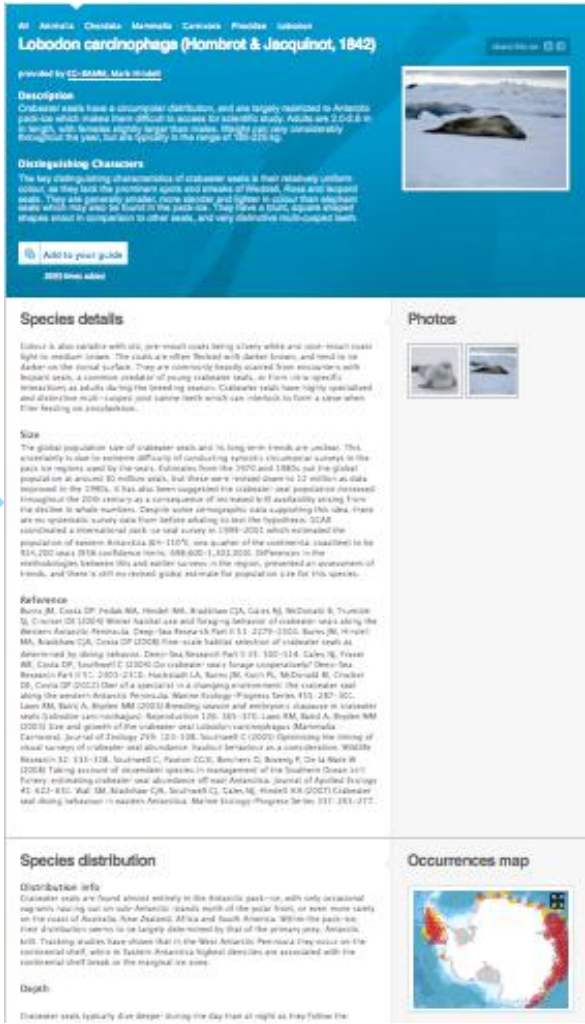
AADC

AFG.BIODIVERSITY.AQ

Expert Provided Content
(text & images)

DATA → **AFG**

Occurrence
Taxonomy



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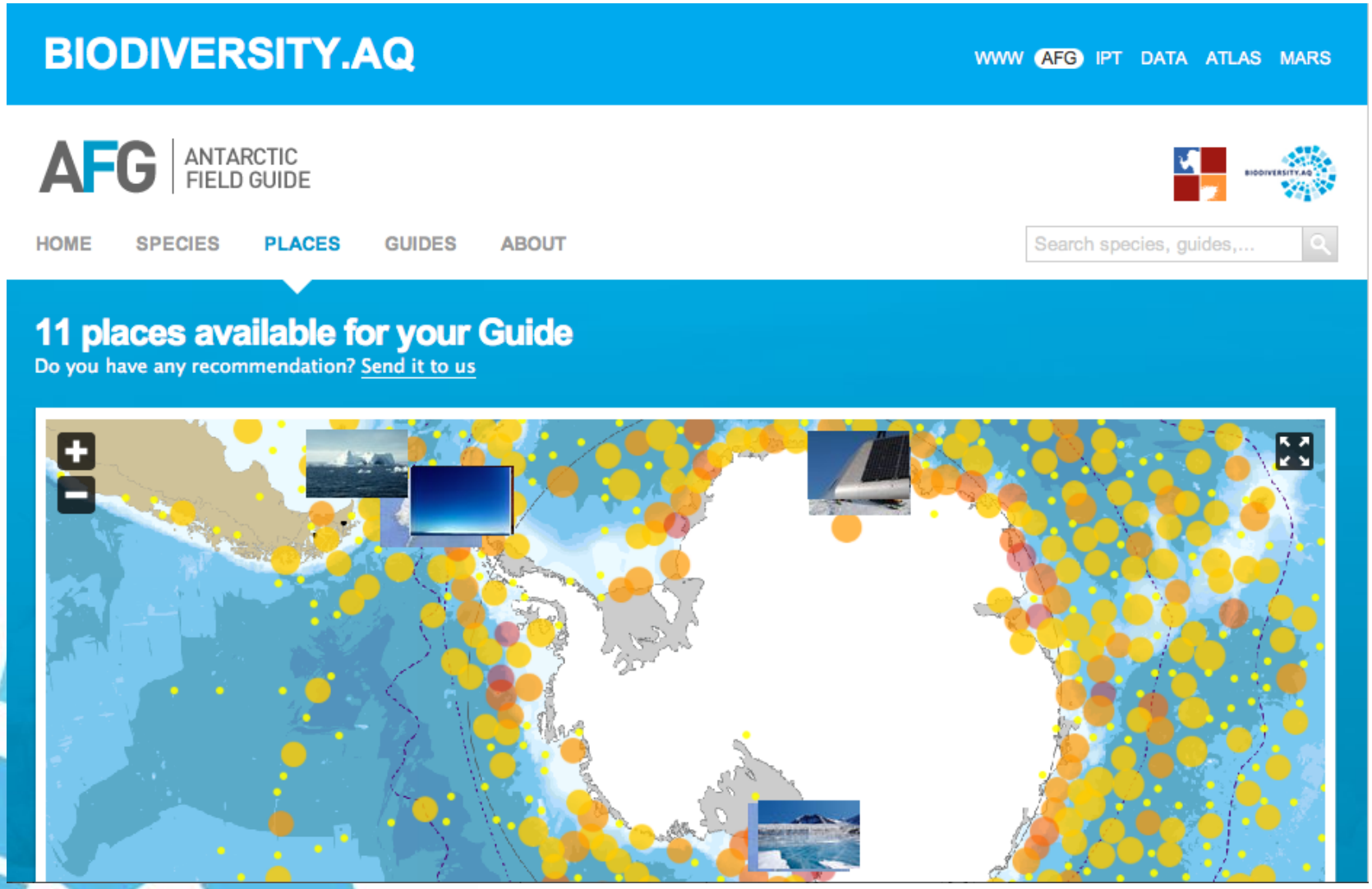

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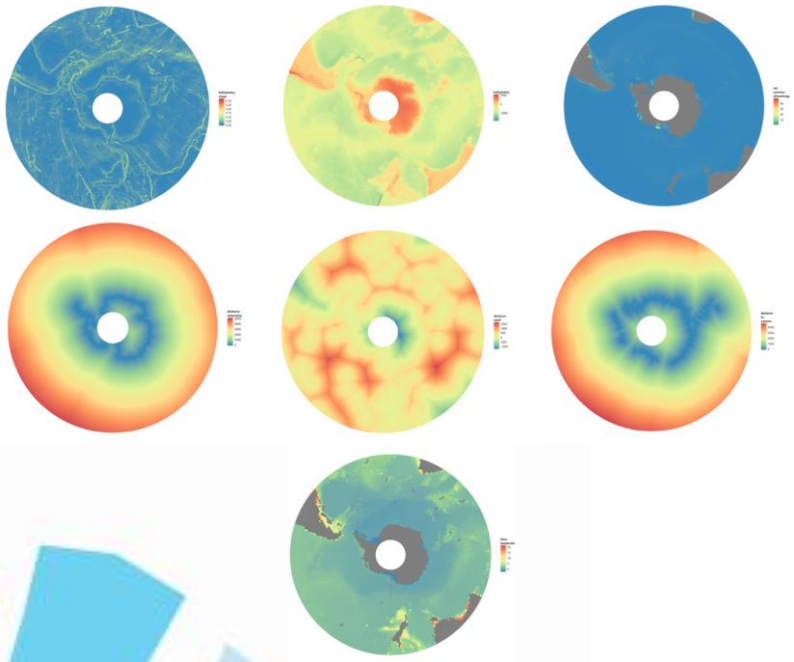
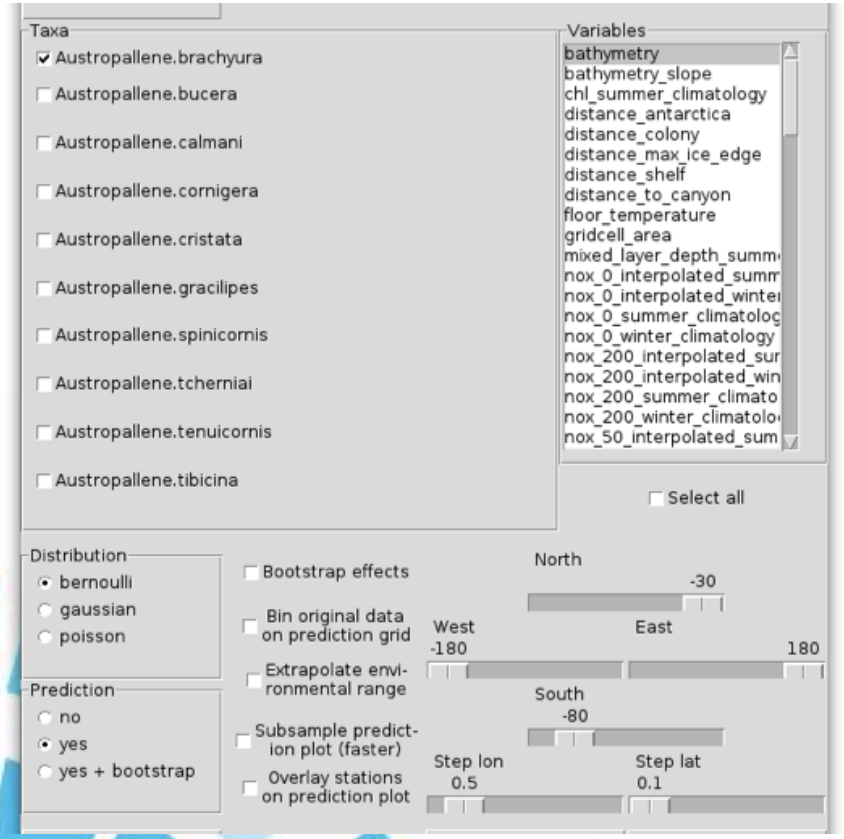
- Biogeographic Atlas of the Southern Ocean
- Editors: De Broyer & Koubbi
- Redo of Hedgepeth 1969 Folio
- Predictive approach
- Static and dynamic versions
- Modelization loops are

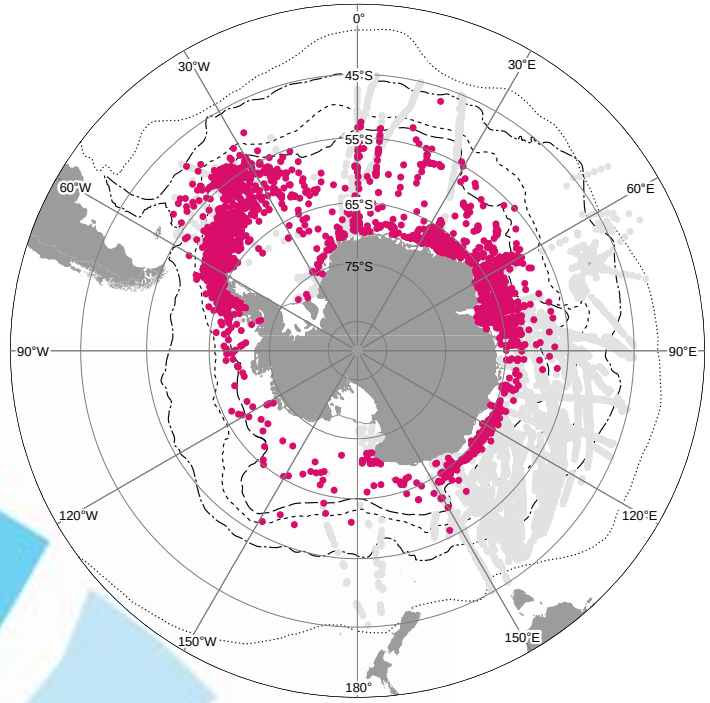
Environmental layers



- Slope
- Bathymetry
- Chlorophyll
- Distance to the continent
- Distance to bird colonies
- Distance to ice
- Distance to shelf
- Distance to canyon
- Floor temperature
- ...
- +
- ANTABIF Occurrence records



- R-functions GUI for BRT and GDM
- https://github.com/jiho/atlasr

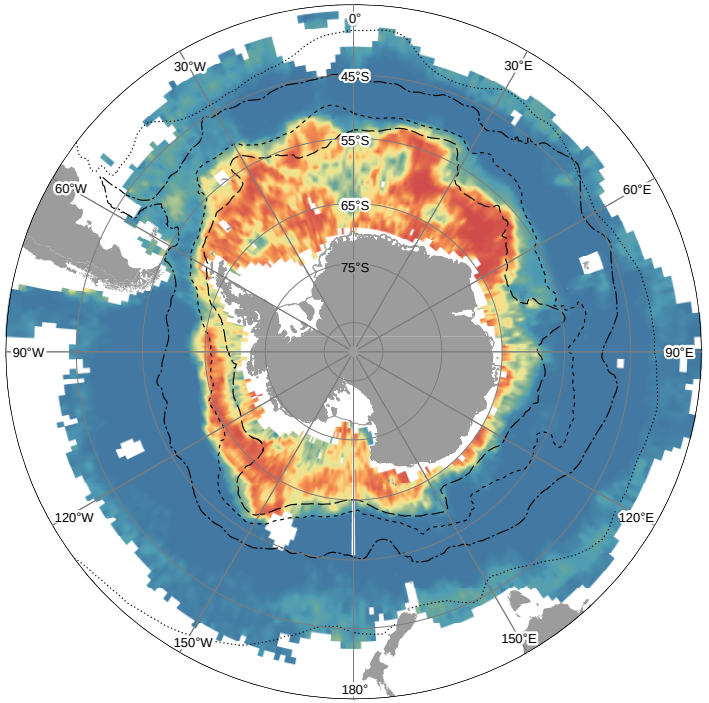


Legend

euphau_pres-abs

Euphausia6

- 0
- 1



Legend

Value

High : 0.994270

Low : 0.001170

Continued efforts

- Application of informatics techniques to biodiversity information
- Improved integration, presentation, discovery, exploration and analysis.
- Yields new ways to view and analyse existing information, as well as predictive models for information that does not yet exist.
- Allows data-intensive biodiversity research and applications (e.g. in conservation)

- **Anton Van de Putte**
- Science Officer AntaBIF
- PhD Biology
- Promotor at RBINS: CCAMBIO (Belspo) vERSO (Belspo, positive review)

Nabil Youdjou

Project developer for AntaBIF

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Privileged partners

Belgian Science Policy Office
belspo

ALFRED P. SLOAN FOUNDATION 1934
ALFRED P. SLOAN FOUNDATION

Partners

AWI
Alfred-Wegener-Institut
für Polar- und Meeresforschung
in der Helmholtz-Gemeinschaft

CENSUS of ANTARCTIC MARINE LIFE
www.caml.aq

Associate partners

DFG

Australian Government
Department of Sustainability, Environment, Water, Population and Communities
Australian Antarctic Division

Antarctica New Zeal

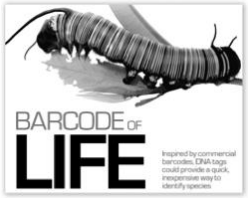
NWO
Netherlands Organisation for Scientific Research

SCAR

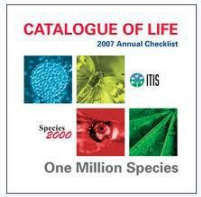
Friends


ANDEEP


ArcOD


BARCODE OF
LIFE


British
Antarctic Survey
NATURAL ENVIRONMENT RESEARCH COUNCIL


CATALOGUE OF LIFE
2007 Annual Checklist
ITIS
Species 2000
One Million Species


CENSUS
OF MARINE LIFE


eol
Encyclopedia of Life


GBIF
www.gbif.org


INTERNATIONAL
POLAR
FOUNDATION


INTERNATIONAL POLAR YEAR
2007-2008


IODE


MNA
MUSEO NAZIONALE
DELL'ANTARTIDE
Felice Ippolito


museum


NASA


OBIS
OCEAN BIOGEOGRAPHIC
INFORMATION SYSTEM


PIC


TOTAL
FOUNDATION


senckenberg
forschungsinstitut und naturmuseum


UNESCO
United Nations
Educational, Scientific and
Cultural Organization
Intergovernmental
Oceanographic
Commission


VLIZ


WWF


vizzuality

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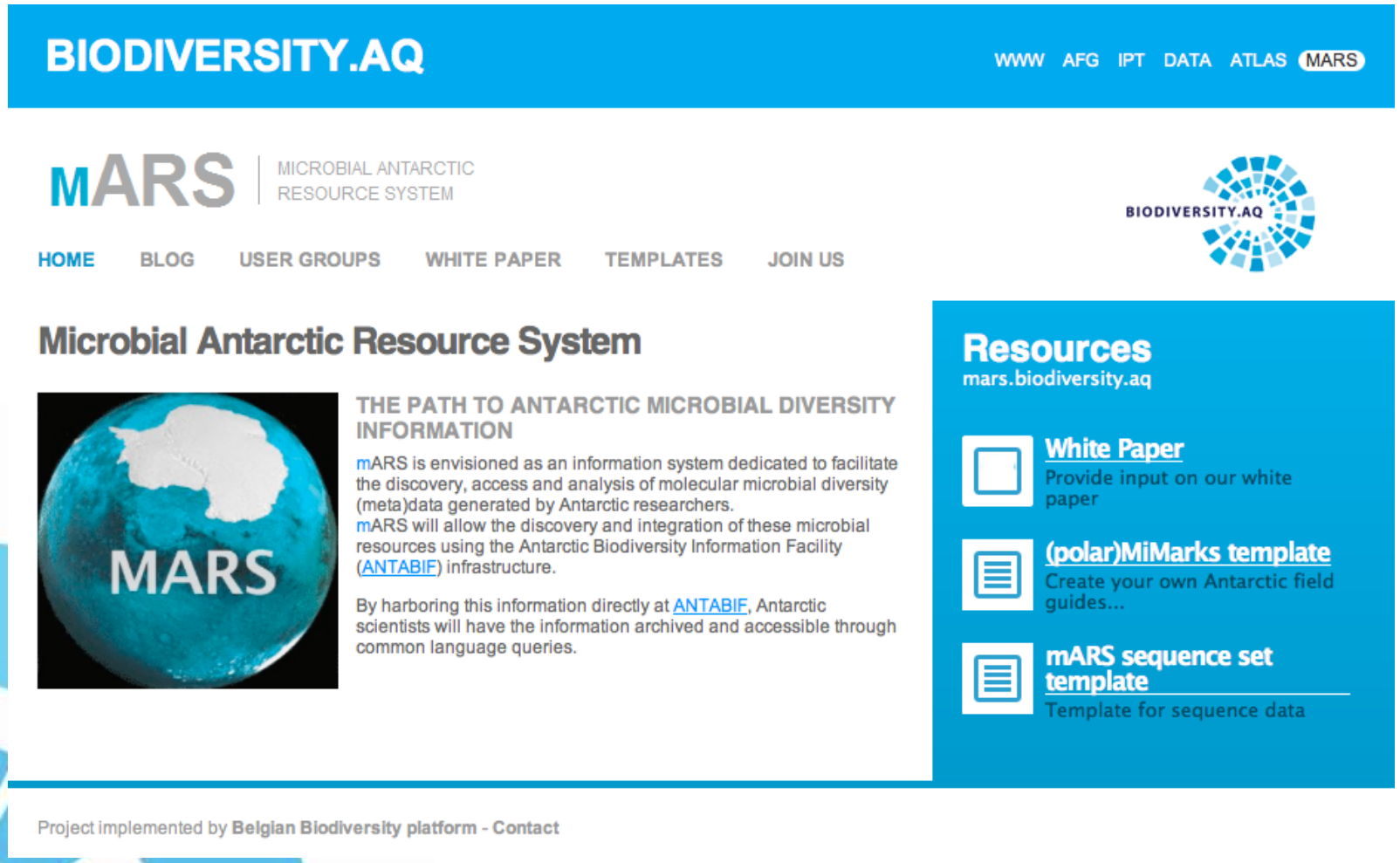

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Sequence set summary

mARS white paper

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- ***Step 1: Data description and discovery***
- ***Step 2: Habitat and Microbial Sequence Metadata Entry***
  - ***(MiMARKS Data Standard; Microbial_Sequence_Set_Template)***
- ***Step 3: Georeferenced-molecular sequence database integration***
- ***Step 4: Processing batch sequence data –Circum-Antarctic microbial diversity***