



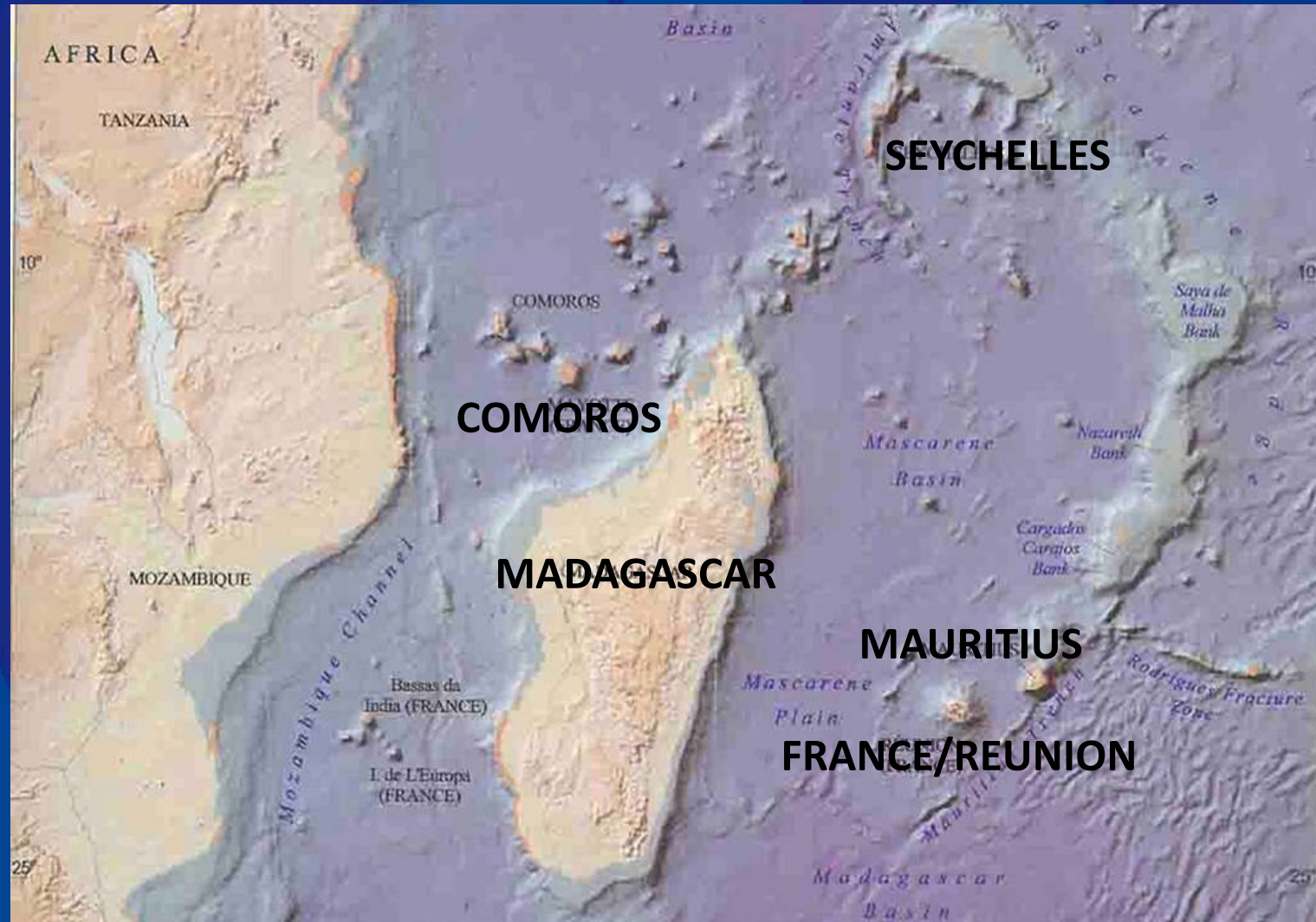
**Marine prioritization process leading
to the Regional Strategy for conserving
marine ecosystems and fisheries in
WIOMER**

ICRI Meeting, La Réunion

13 Décembre 2011

*Rémi Ratsimbazafy, Ecoregional Leader
WWF Madagascar & West Indian Ocean Programme Office*

The Western Indian Ocean Islands Marine Ecoregion - WIOMER



The RAMP-COI Project

- ✦ Indian Ocean Commission's Programme.
- ✦ Implemented by WWF Madagascar & West Indian Ocean Programme Office (WWF MWIOPO)
- ✦ Participating Countries: Comoros, France/Reunion, Madagascar, Mauritius and Seychelles.
- ✦ Funding Partners:



- ✦ Project Duration: June 2006 – June 2010

Reconnaissance phase

- ✦ National survey on biological, ecological, socio-economic, political, legal and institutional aspects for Comoros, Madagascar, Mauritius and Seychelles.

Data collection & GIS mapping

Inventories and first synthesis of data:

- ✦ Bathymetry
- ✦ Oceanography: current, SST, productivity
- ✦ Habitats: Coral reefs, sea grass, mangroves, seamounts
- ✦ Biodiversity: corals, fishes, mollusks
- ✦ Flagship species: marine mammals, turtles, sharks, coelacanth, seabirds, eels
- ✦ Vulnerability: natural and anthropogenic factors
- ✦ Conservation: marine protected areas, biogeographic subunits

Data collection & GIS mapping...

Threats:

Anthropogenic Drivers of Change

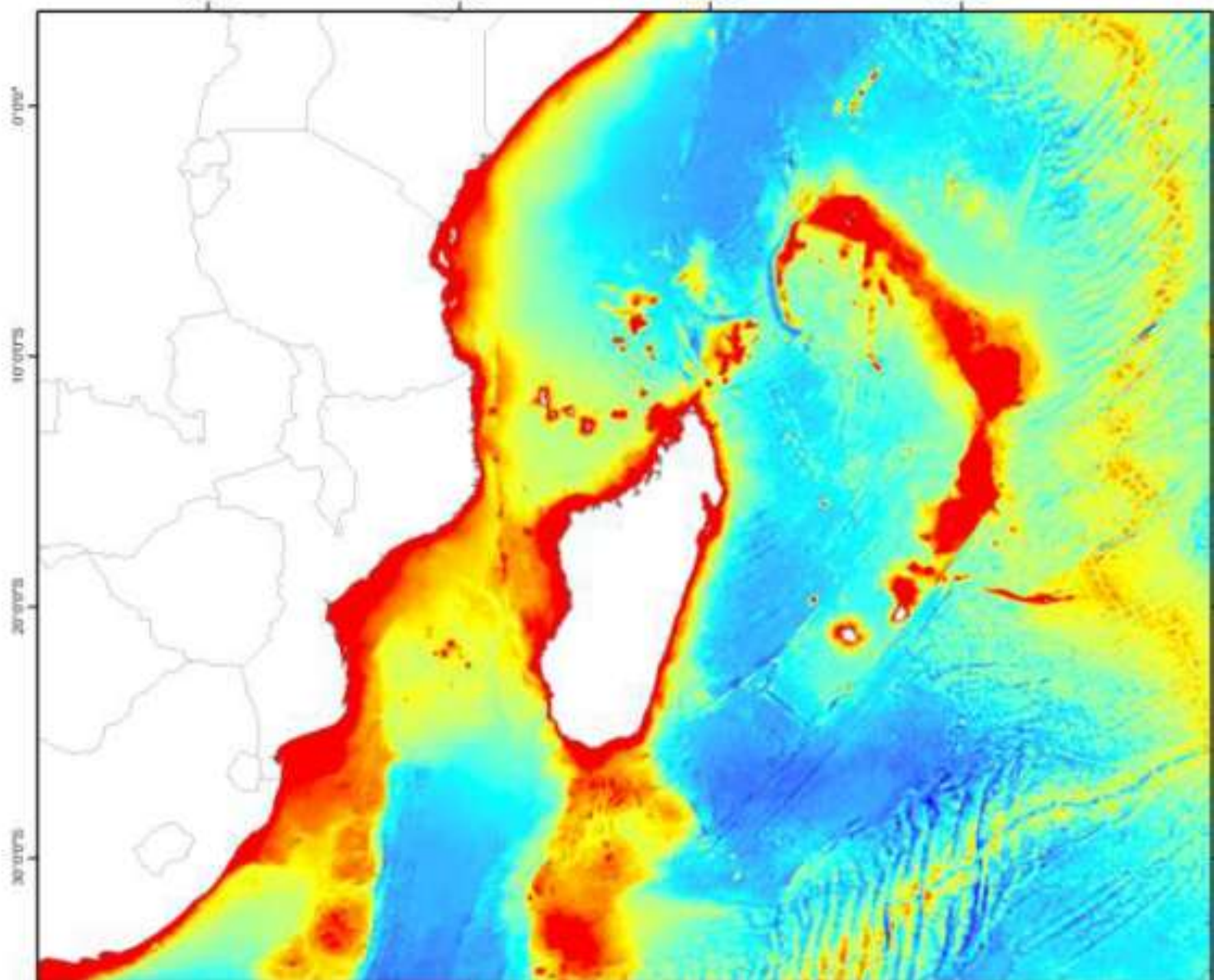
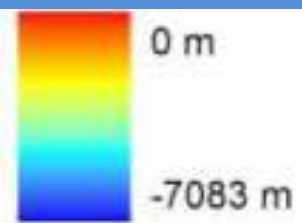
- ✦ Pelagic industrial and coastal fisheries, shore gathering
- ✦ Land-based sedimentation
- ✦ Watershed pollution by urban activities and agriculture
- ✦ Local disturbance to ecosystems by urban activities
- ✦ Tourism
- ✦ Shipping activities

Oil and gas exploration

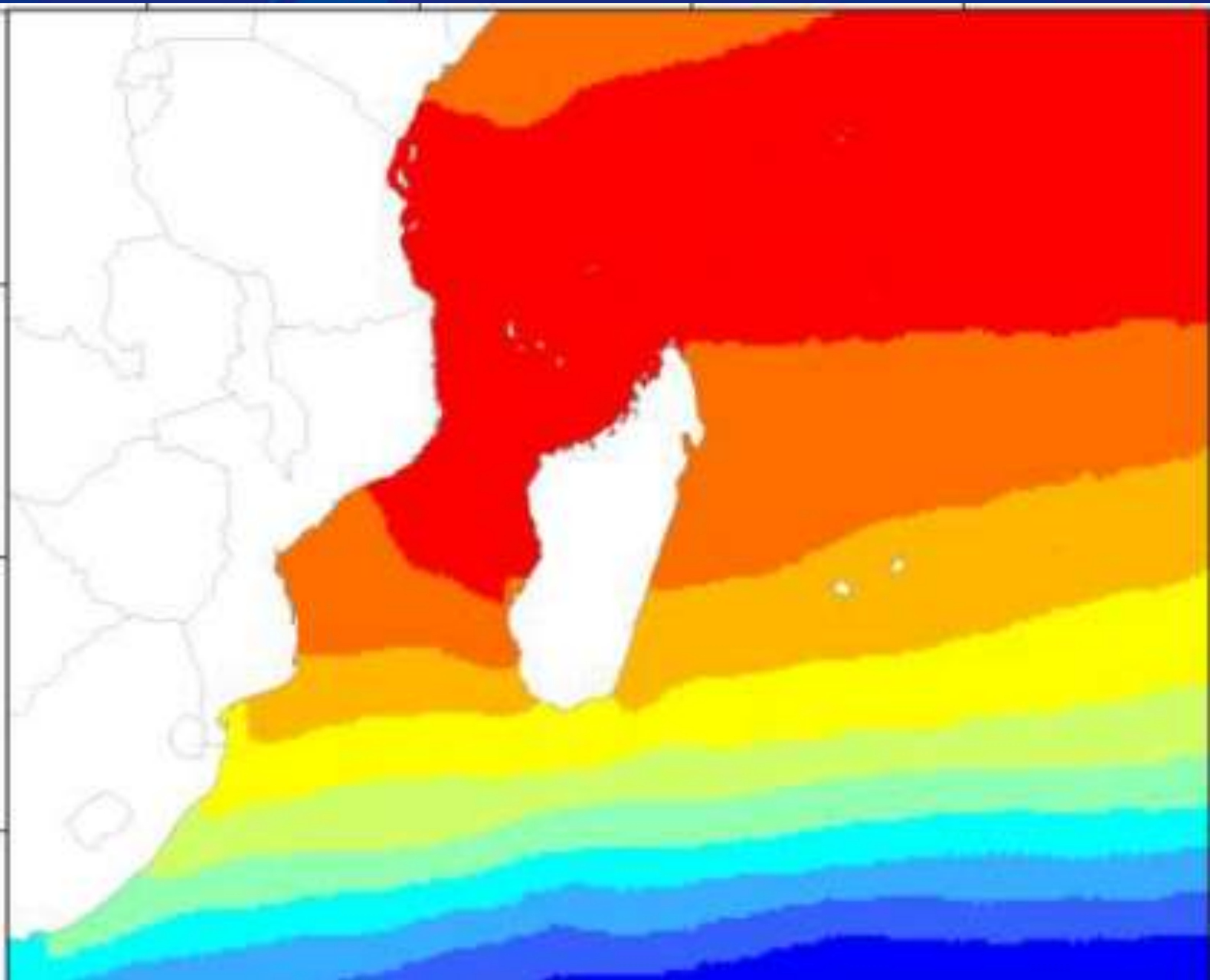
Cyclones exposure

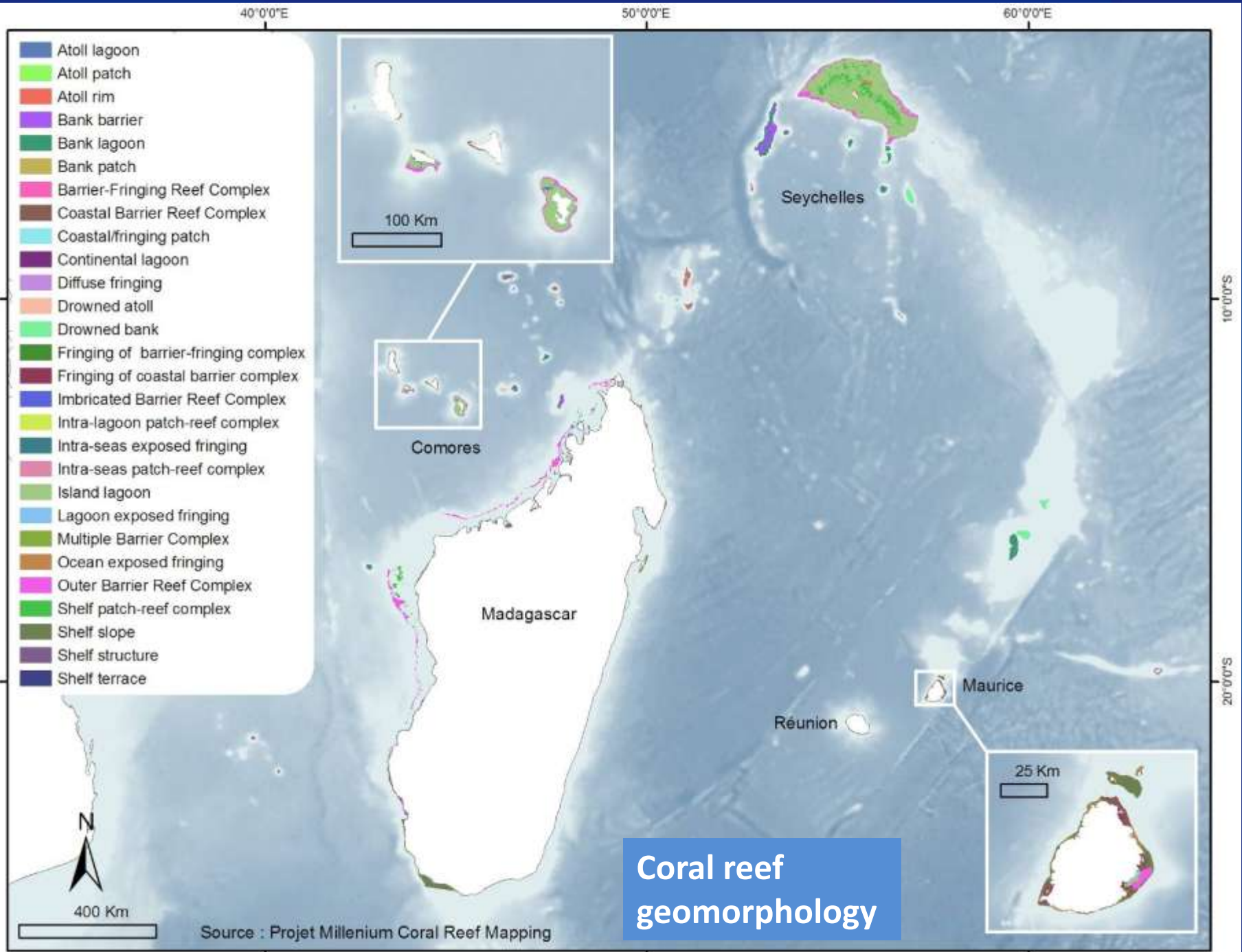
Coral reef vulnerability to climate change

Bathymetry

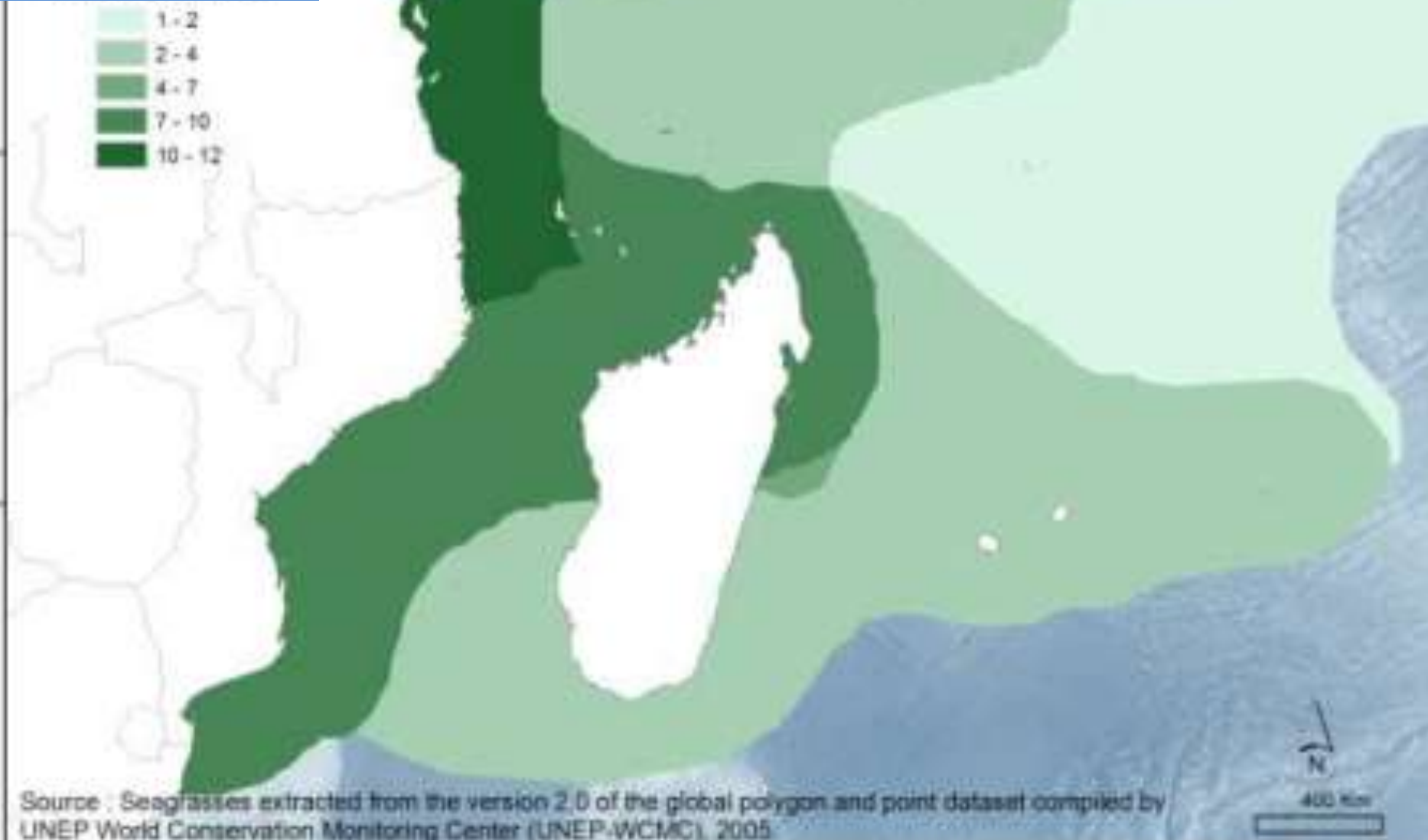


Average SST (°C)





Sea grass species



Estimations chiffrées :
T. verte / T. imbriquée

 Tortue imbriquée

 Tortue verte



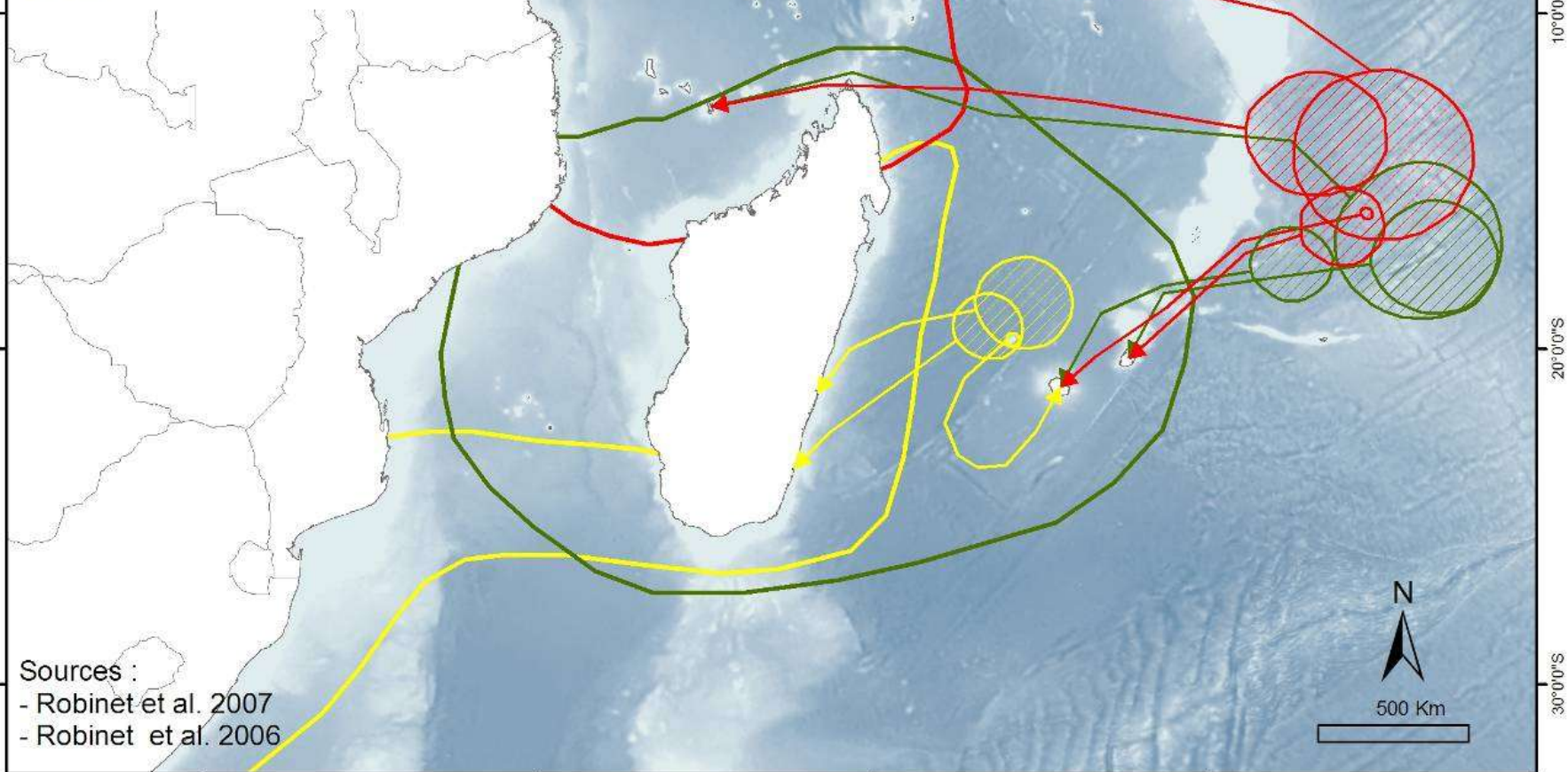
Eels species

Aires de distribution

-  *Anguilla bicolor bicolor*
-  *Anguilla marmorata*
-  *Anguilla mossambica*

Aires de reproduction potentielles

-  *Anguilla bicolor bicolor*
-  *Anguilla marmorata*
-  *Anguilla mossambica*



Seabirds

Nombre d'espèces nicheuses recensées



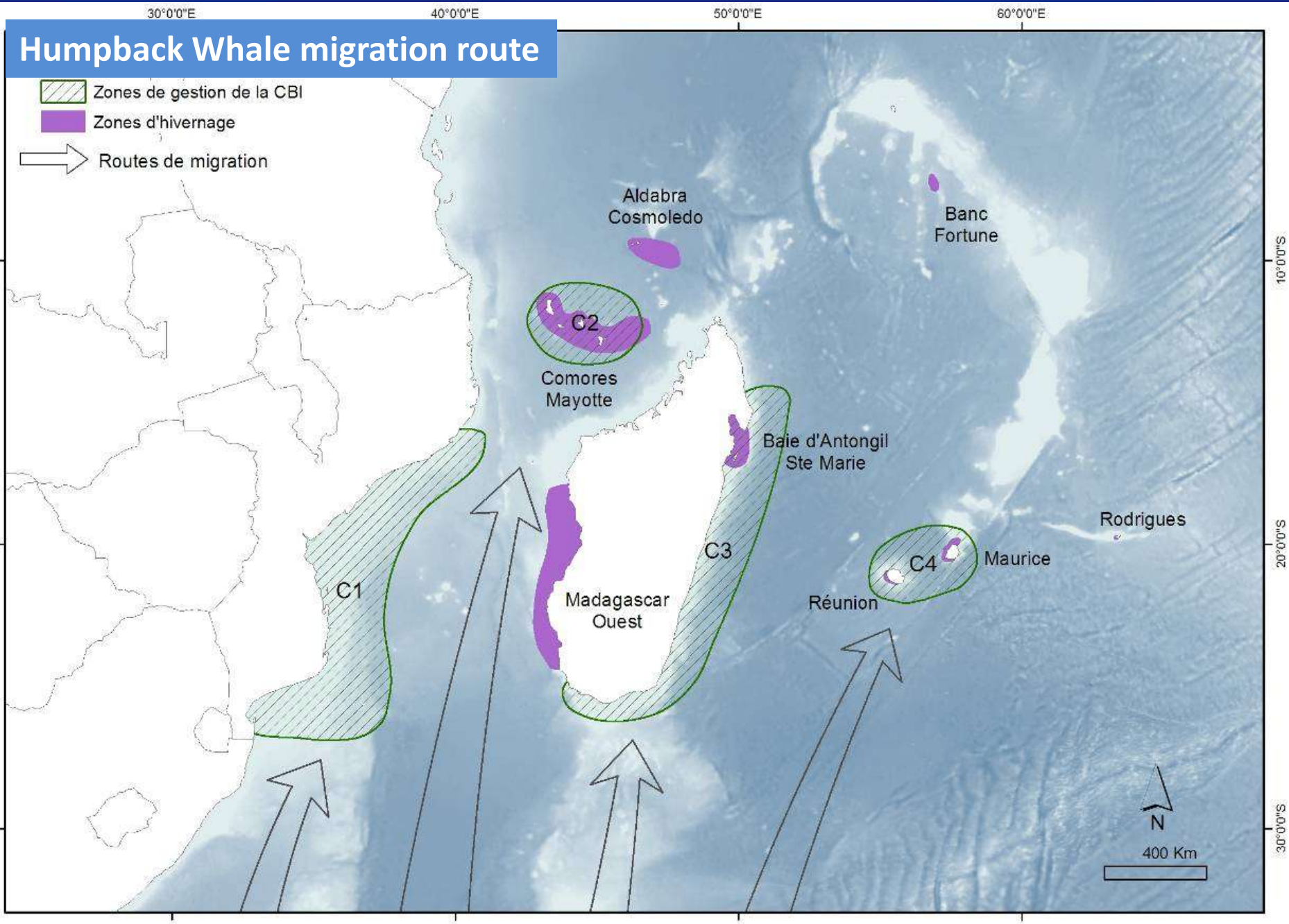
Importance des populations nicheuses. Toutes espèces confondues



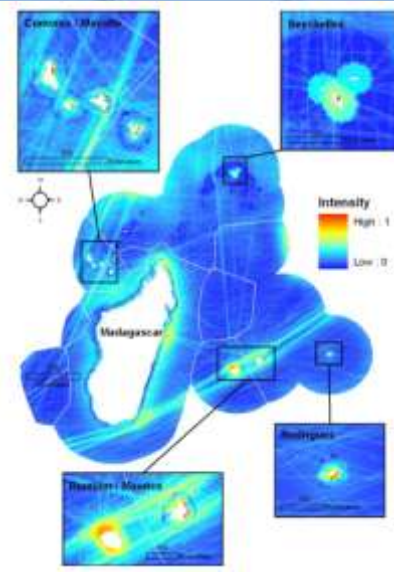
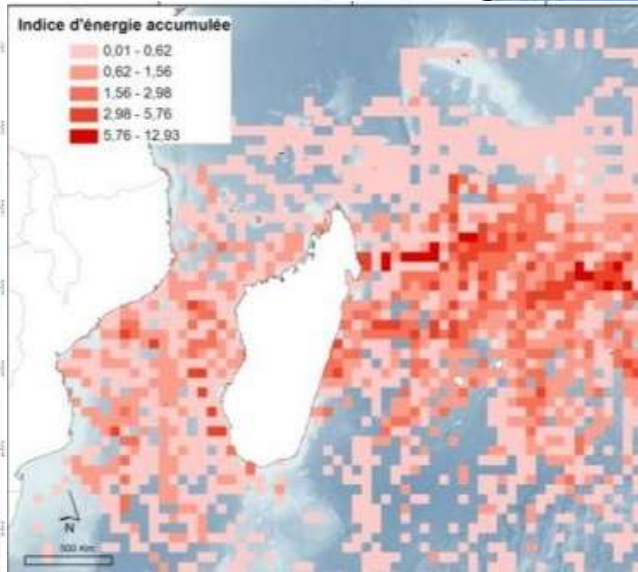
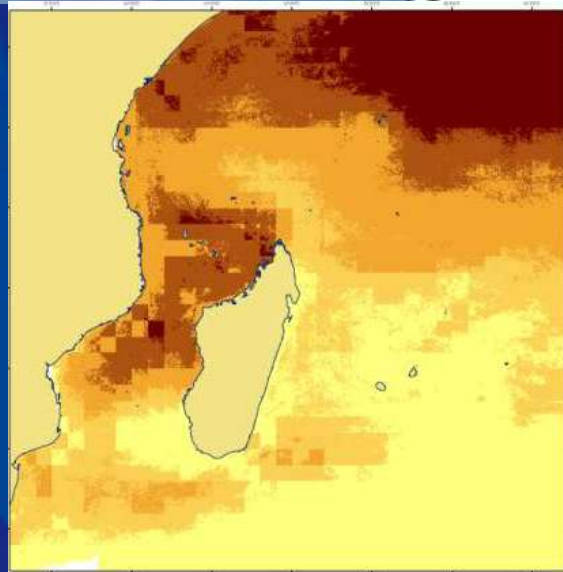
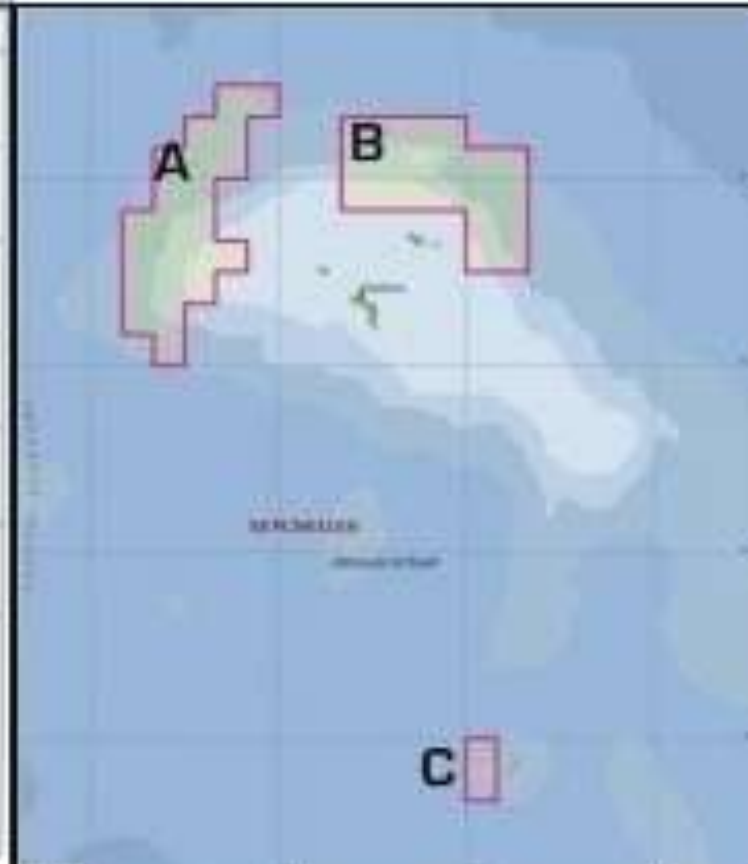
Sources :

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- La Corre M., & Berneraja E. 2004
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- Rocamora G., & Skerrett A. 2001

Humpback Whale migration route



Threats

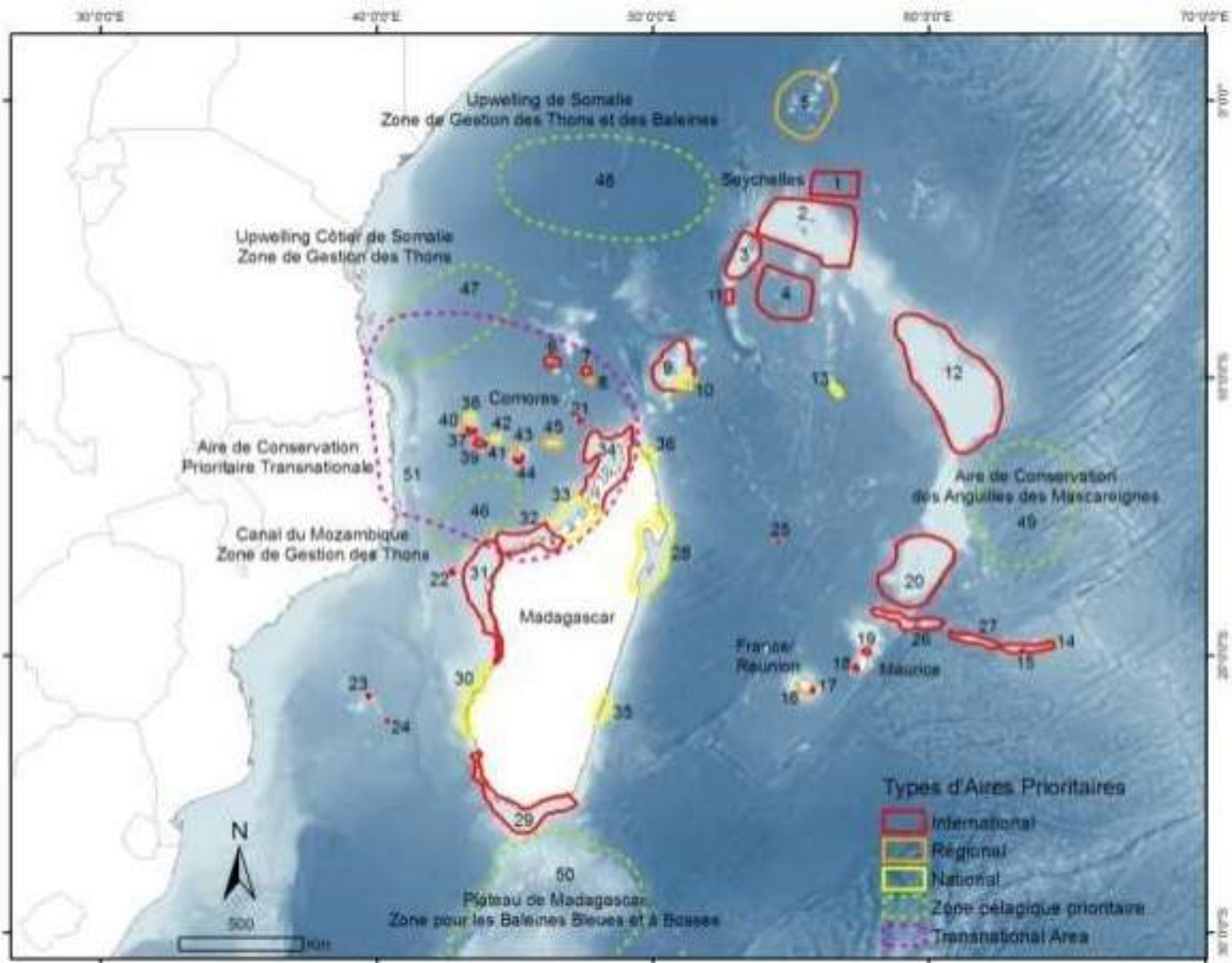


Coastal biogeographic subunits



Marine Prioritization Process

- ✦ Accomplished by combining expert knowledge and Marxan, a **systematic conservation planning tool** that indicates areas of irreplaceability of biodiversity features based on representation of habitats, drivers of change, and other factors..
- ✦ Marxan analysis helped the experts in identifying priority areas. They were done using targets of 30% for both bioregions (11 types) and habitats (28 reef geomorphologic types and mangroves).
- ✦ The layer resulting from the DoC analysis was used as a cost layer into Marxan.



A Vision for marine Ecosystems & Fisheries

- ✦ At least 30% of all coasts benefiting from effective community-based fisheries management,
- ✦ A network of coastal and shallow water marine protected areas including at least 10% of all habitat types established and effectively managed,
- ✦ Diverse and productive pelagic ecosystems sustained through effective fisheries management

Seven key Regional Initiatives

- ✦ Implement rapid expansion of effective community-based fisheries management programs along coastlines and shoals.
- ✦ Develop sustainable offshore fisheries and maintain healthy pelagic ecosystems.
- ✦ Build and support a world-class network of marine protected areas.
- ✦ Implement regional actions to protect wide-ranging species & species of special concern.
- ✦ Promote balanced oil & gas exploration & exploitation and sustainable development.
- ✦ Adapt marine protected areas and fisheries to climate change.
- ✦ Implement research to fill critical gaps in knowledge for effective management.

The proposed Regional Strategy...

- ✦ Supported by the Vision, the 51 priority seascapes and sites and the seven key regional initiatives,
- ✦ Subject to intensive national consultation steered by the Indian Ocean Commission.
- ✦ Comoros, France/Reunion, Mauritius and Seychelles have already achieved their national consultation.
- ✦ Finalized strategy planned through regional workshop in 2012.
- ✦ Submission to the Indian Ocean Commission governing body.



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