

Workshop 2 - Introduction Research issues in Preservation and Management of Biodiversity in Land Ecosystems

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Workshop organisation

General and regional context

Research in La Réunion

Common priority issues :

- EU approach P. Feldmann
- Biological conservation M. Rouget
- Management of Biological Invasions J. Scott
- Regional plant protection program O. Pruvost
- Genetics improvement in agriculture L. M. Raboin

Discussion on priority issues

Proposals of structuring actions

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At the global scale

**Only 2M species described
among an estimated 10 to 30 M**

**Rain forests represent more
than half of the living species**

**Deforestation rate 10 M ha/yr to
clear areas mostly for
agriculture**

**Acceleration of biodiversity loss
with consequences at the
ecosystem level**



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At the global scale

**800 M people suffer
from malnutrition**

**The global population
will increase by 3
Billion by 2050**

**Agricultural production
must increase
especially in
developing countries**



General context

Biodiversity conservation, the fight against poverty and intensification of agriculture are closely linked.



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Research for new and sustainable practices of biodiversity management

Improving knowledge of biodiversity

Understanding general processes to assess long-term consequences of human activities

Developing methods to promote sustainable agriculture

Integrating geographical, historical and social dimensions

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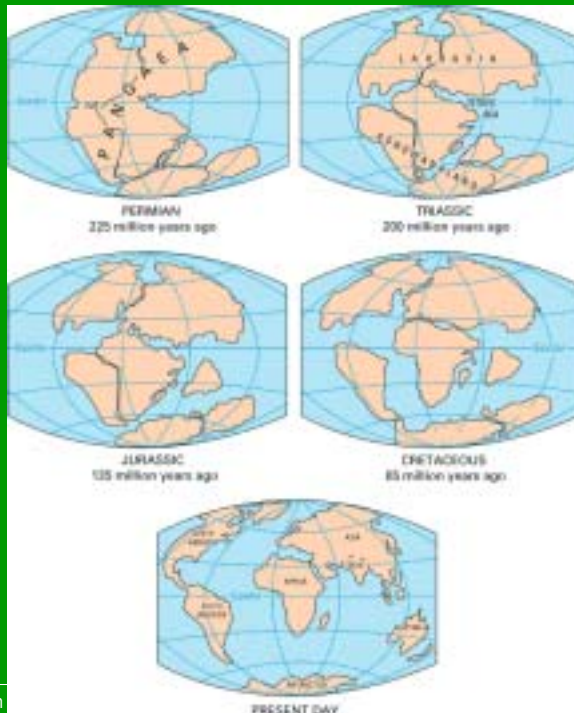
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Regional approach

Commun origin
Gondwanaland

Recent Human
migrations

Connected bio-
geographic
areas



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Regional approach

Richness of Indian Ocean Biodiversity

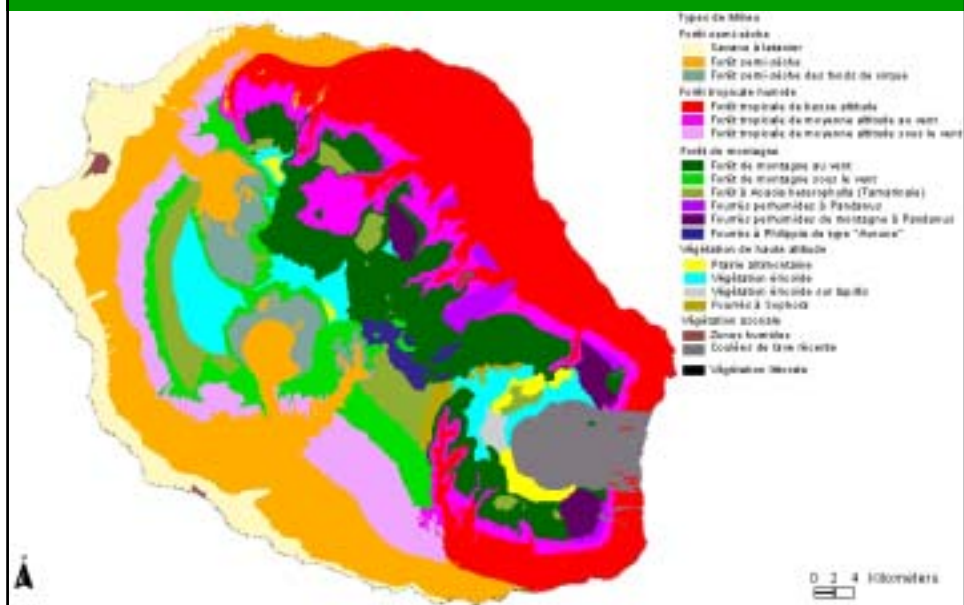


6 biodiversity hotspots out of 25 recorded in
the world (Meyer et al, 2000)

Common pests and diseases

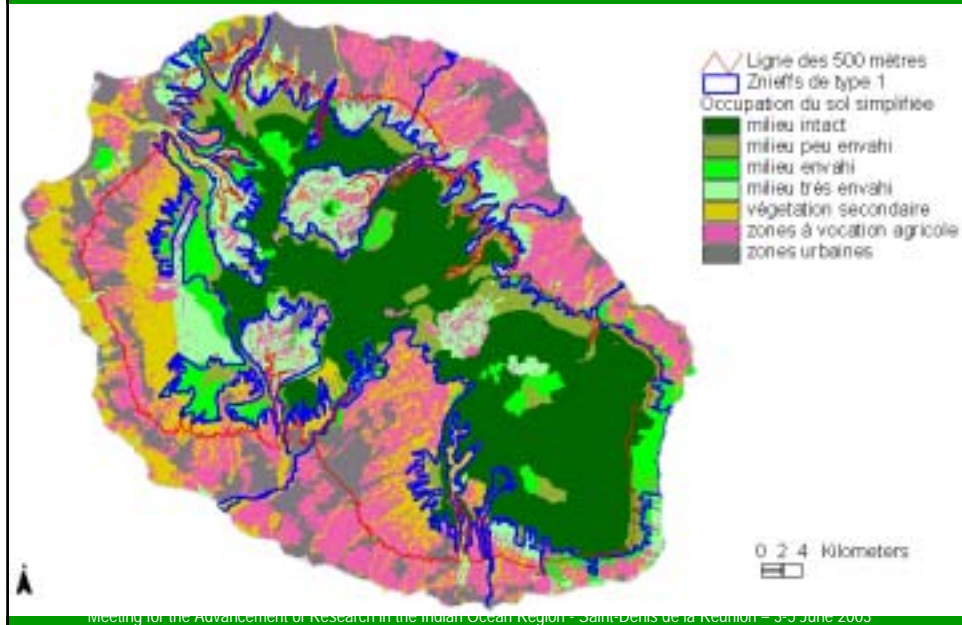


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Habitat transformation and current land use



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A overview of biodiversity research in La Réunion



UR and C3I, 90 researchers (agronomy, chemistry, genetics,...)

A first joint research unit UMR PVBMT

Plant Protection Pole : A common laboratory with professional and NPPO

A network with ARMEFLHOR, CERF, Agriculture Chamber, CBNM, Insectarium, Museum, ONF, ...

Links with leading EU laboratories

Priority issues

**Increasing knowledge of land biodiversity
(multilevel approach)**

**Understanding changes in tropical
ecosystems**

**Developing methods for sustainable
agrosystem management and forest
landscape restoration**

**Promoting biotechnologies for major
crops and new speculations**

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Proposed structuring actions

General:

- **Co-supervision of a Master's degree on
« Management of Tropical Biodiversity »**
- **Promotion of researcher's mobility inside
Indian Ocean area (Phd Thesies, Post Doc...)**

Specific:

Classification through priority issues

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Increasing knowledge of land biodiversity

Short term

- Regional networks (IUCN Specialist group) Red list
- GIS of ecoclimatic regions with information on species diversity

Long term

- Fauna and Flore

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Understanding changes in tropical ecosystems

Short term

- Regional networks (biological invaders list, pests and diseases list)
- Network of permanent biodiversity monitoring stations

Long term

- International station to study the effect of climate change on Indian Ocean biodiversity

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Developing methods for sustainable agrosystem management and forest lanscape restoration

Short term

- Regional networks (RADOI)

Long term

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Promoting biotechnologies for majors crops and new speculations

Short term

- Genetic consortium for sugar cane...

Long term

- *In situ* and *ex situ* regional conservatories for coffee, vanilla, alliums, coconut...

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