

IMPLEMENTATION OF INTERNATIONAL INSTRUMENTS AND POLICY DEVELOPMENT

October 31 – November 6, 2005

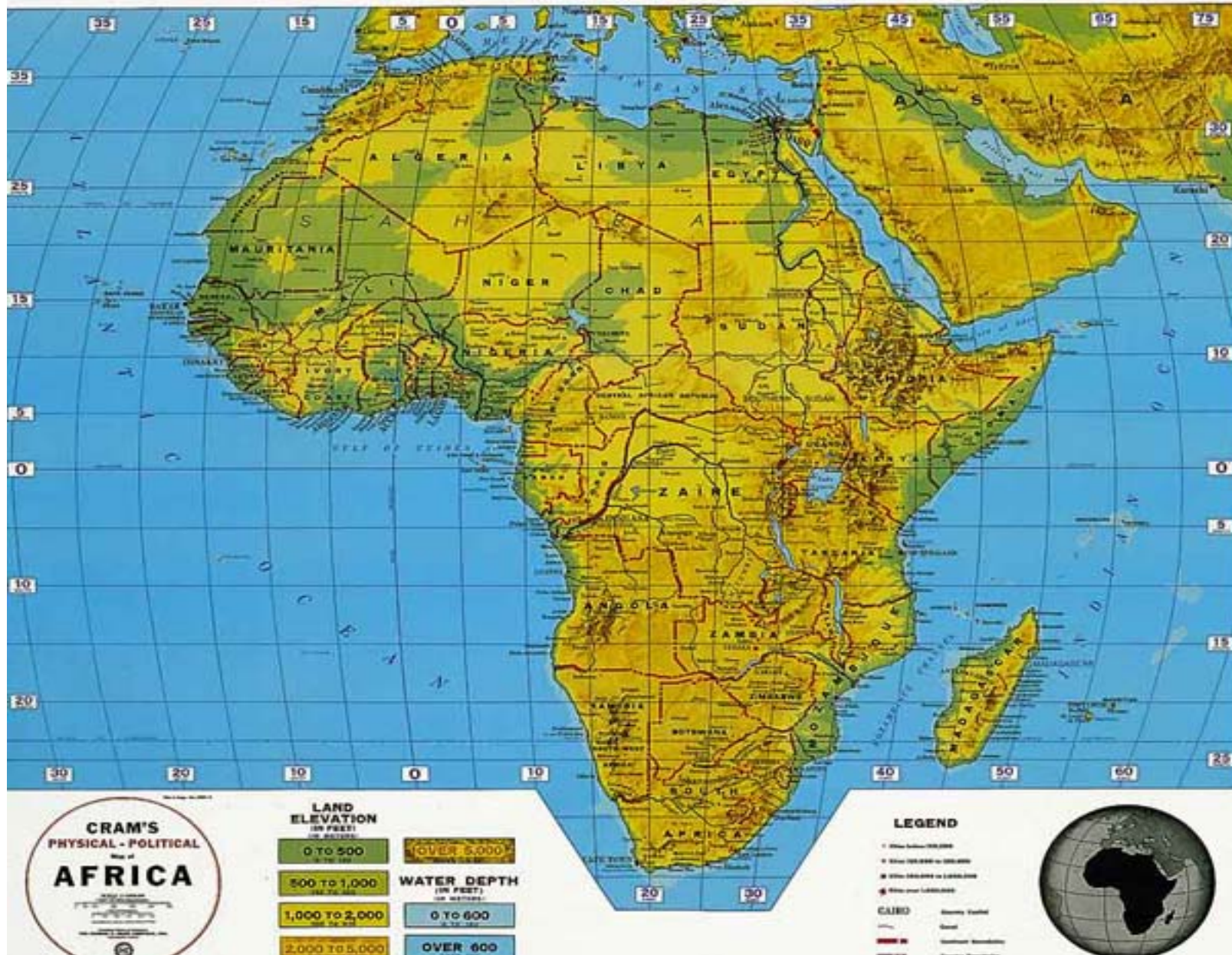
Grande Baie, **Mauritius**

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SCIENTIFIC OVERVIEW

African Region

AFRICA – Physical



The Continent of AFRICA

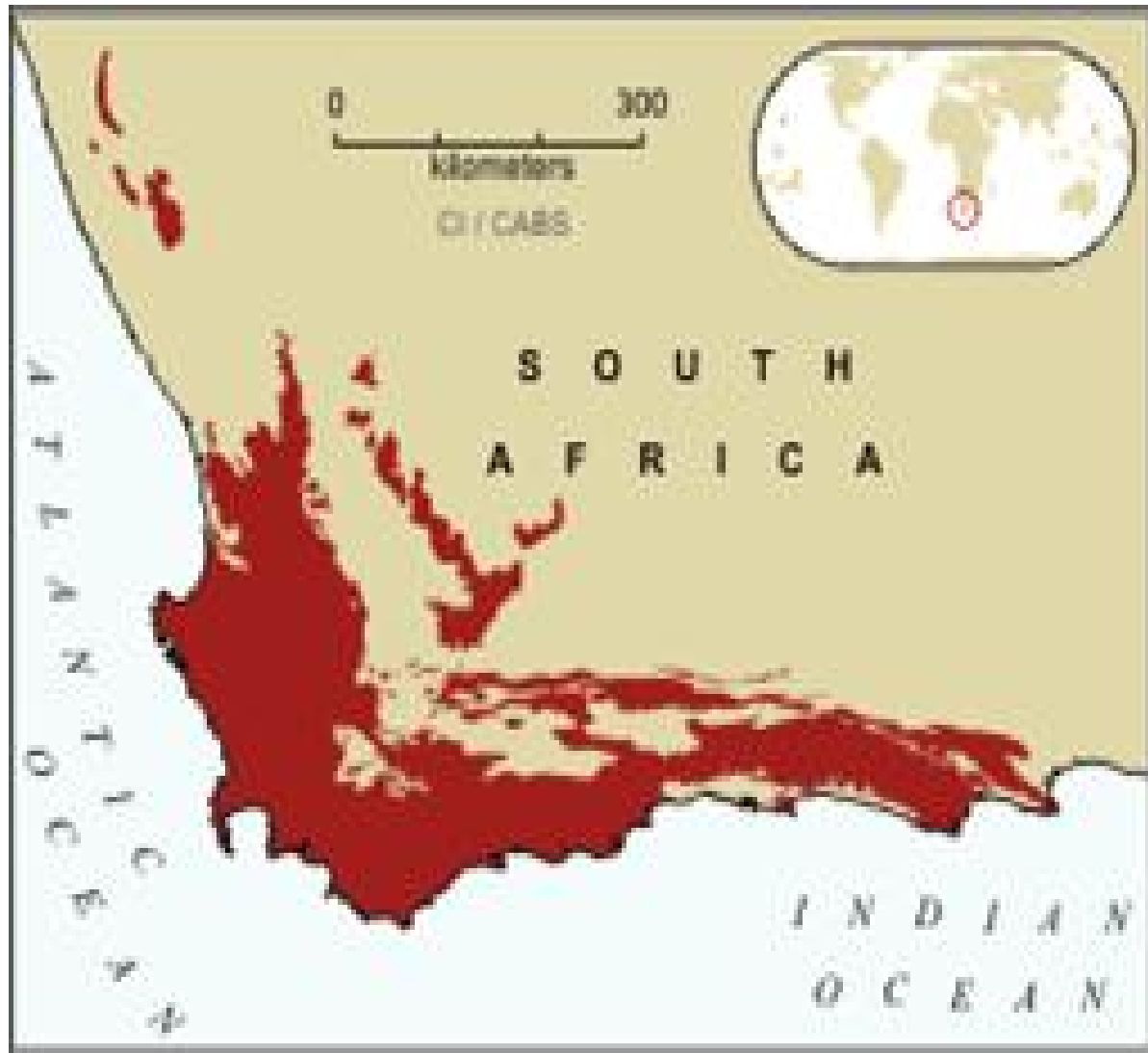
- Second largest continent - 30,244,000 km²
- Ancient plateau with discrete mountain systems
 - Atlas (NW), Drakensberg (S), Eastern Arc
- Hyper-arid desert – 25%
- Humid climate zone – 33%
- Dryland – rest
- Vast reserves of mineral wealth
- Large lakes – Victoria, Chad, Malawi, Tanganyika
- Accounts for only 2-3% of global CO₂ emissions

- Africa is home to five internationally recognized areas of particularly high species richness and endemism - “biological hot spots”:
 - ✓ the Western Indian Ocean islands
 - ✓ the Cape floristic region
 - ✓ the Succulent Karoo - the most species-rich desert in the world (Namibia/S. Africa)
 - ✓ the upper Guinea forest
 - ✓ Eastern Arc Mountain forests of East Africa (Kenya/Tanzania)

Succulent Karoo



Cape floristic region



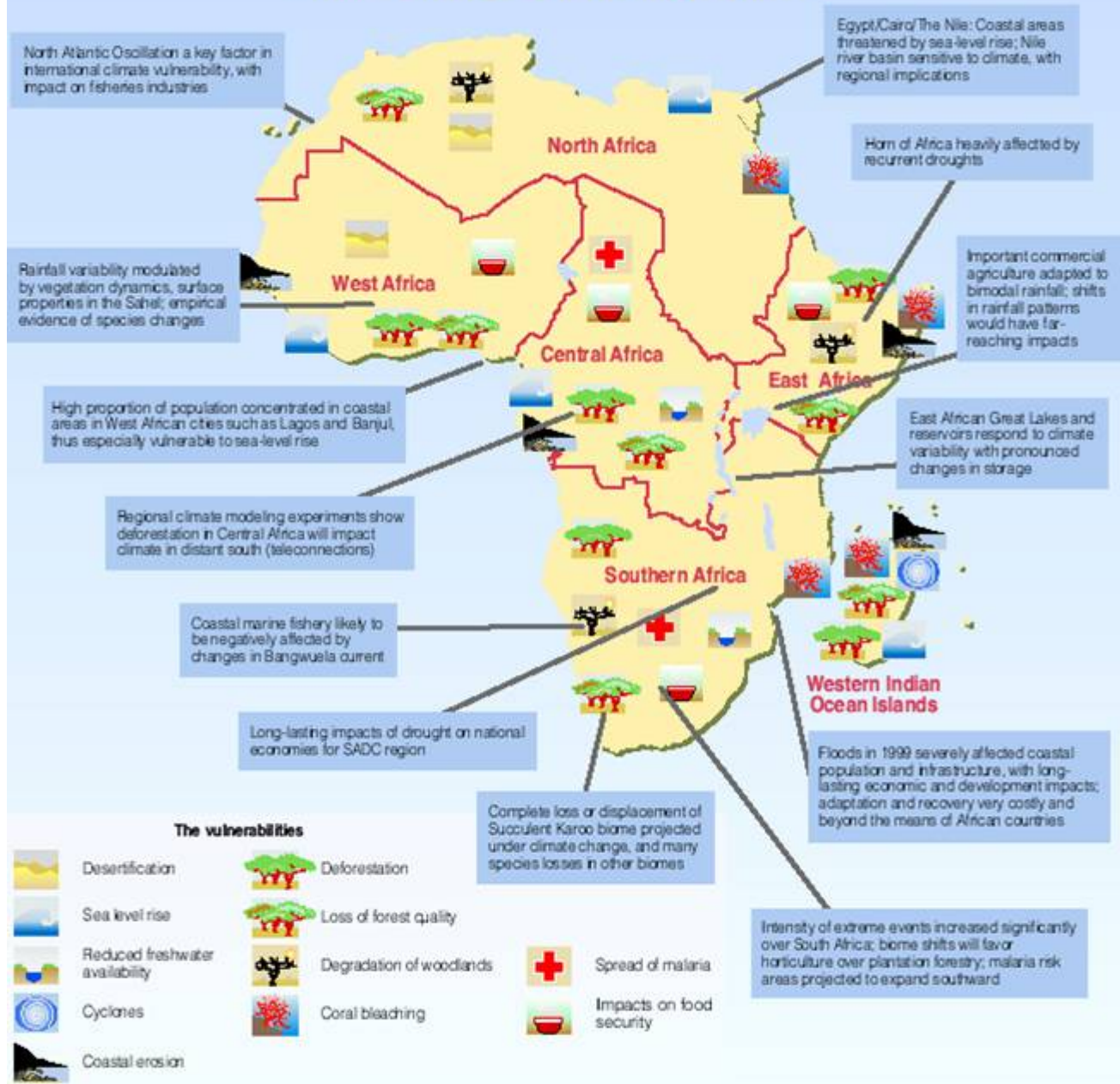
Africa

- has 1 254 protected areas, including marine protected areas, biosphere reserves, wetlands of international importance and World Heritage sites (~ 7% of land)
- More than 700 vertebrate species, and 1 000 species of trees are threatened with extinction
- Central Africa had lost about half of its wildlife habitats by 1986
- During 1980-1995, the number of extinct plants in Southern Africa increased from 39 to 58

Climate scenario -2050

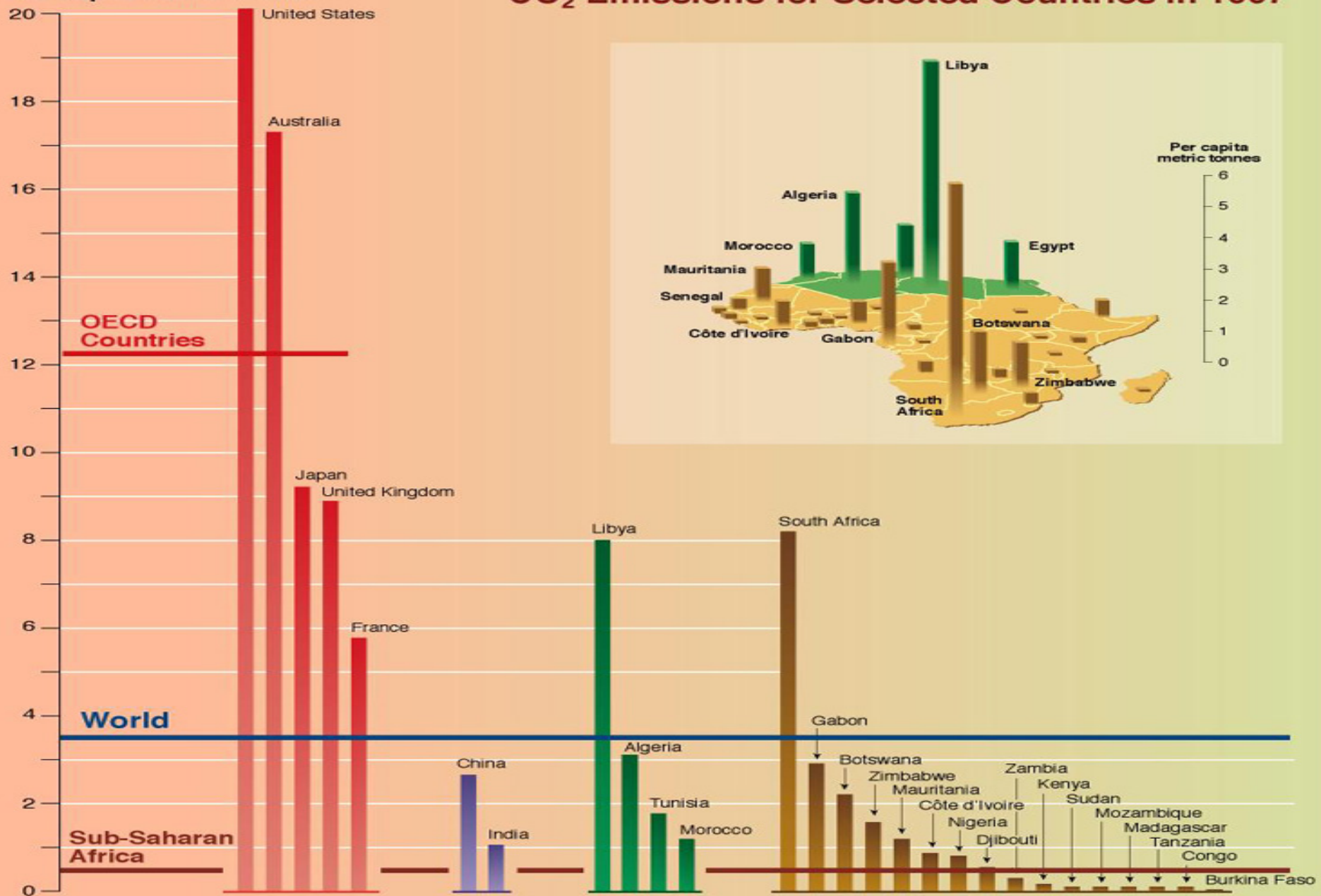
- Land temperature – increase by 1.6° C over the Sahara and semi-arid parts of Southern Africa; a rise of 0.2° C/decade
- Sea temperature – tropical oceans around Africa to rise by 0.6 to 0.8° C
- Rainfall – decline by 10% over Southern Africa; Equatorial Africa could see an increase of 5%
- Sea level rise - ~25 cm

Climate Change Vulnerability in Africa



CO₂ Emissions for Selected Countries in 1997

Per capita metric tonnes



Sources: Human Development Report 2001, United Nations Development Programme (UNDP).

Countries of Interest

- Botswana - landlocked
- The Gambia - floodplain
- Lesotho - landlocked
- Mauritius - archipelago
- Namibia – dry lands
- Seychelles - archipelago
- Swaziland - landlocked

Regional layout



Physical Characteristics -General

- Deserts – Namib, Kalahari (N)
- Forests – Swaziland
- Wetlands – Bao Bolon Reserve (G), Okavango (B)
- Salt pans – Makgadikgadi (B), Etosha (N)
- Savannah – Botswana, Namibia
- Coastal – Seychelles, Mauritius
- Mountains – Lesotho
- Rivers and lakes – Gambia, Chobe (B), Ngami (B)
- Deltas – Okavango (B)

National Parks and Reserves

- Botswana – Chobe Park, Moremi Game Reserve; transfrontier park between South Africa and Botswana – Kgalagadi Park (opened 2000)
- The Gambia – Abuko Nature Reserve; Niimi, Kiang West, River Gambia National Parks

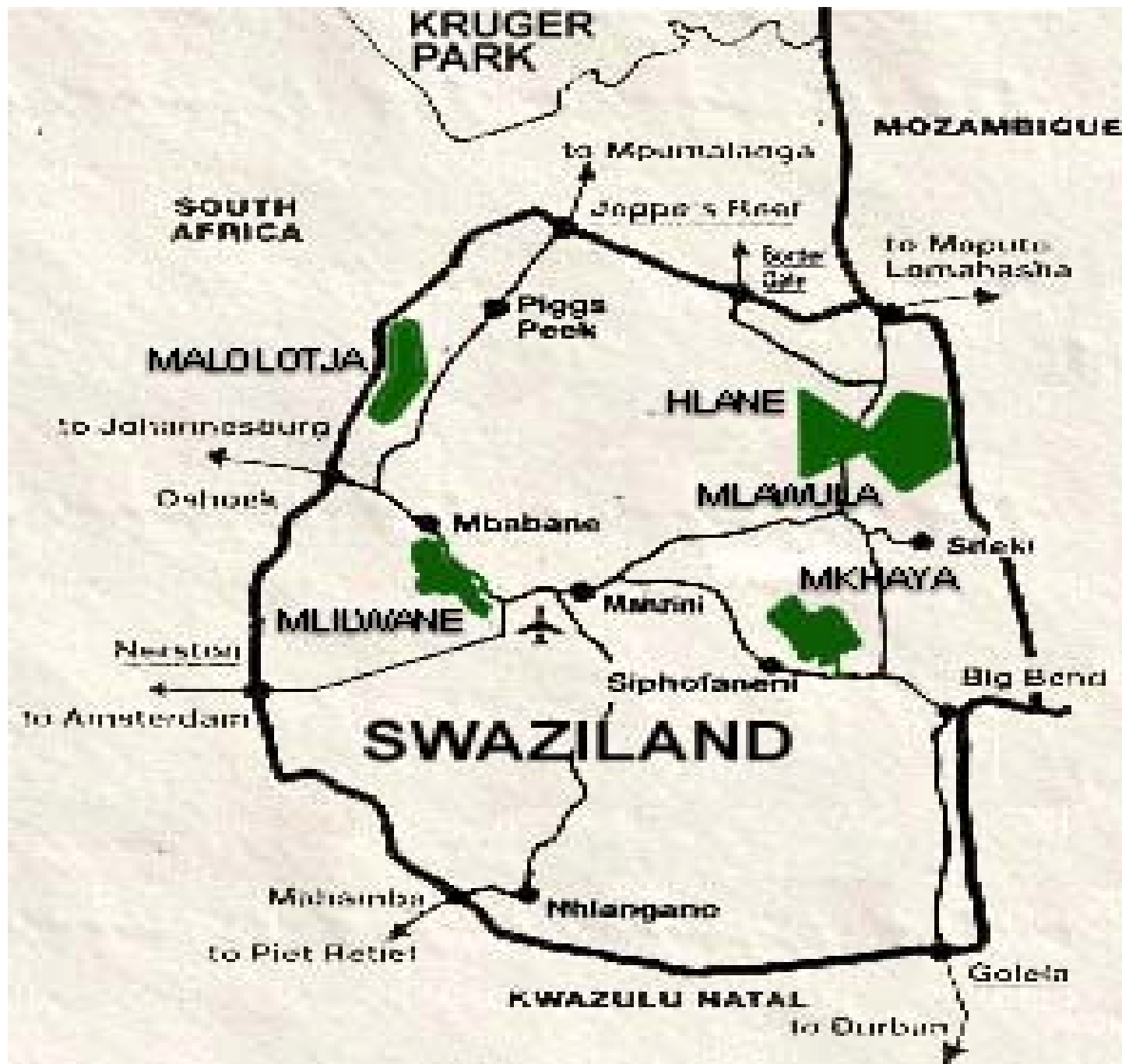
National Parks and Reserves

- Lesotho – Sehlabathebe,
- Mauritius – Black River Gorges,
Macchabee-Bel Ombre
- Namibia – Etosha, Namib Naukluft

National Parks and Reserves

- Seychelles – Praslin, St Anne Marine Park
- Swaziland – Hlane Game Park; Mkhaya, Milwane Parks

Africa has created over 2 million km² of protected areas (4x size of Spain) (IUCN, 2005)



- Designating vast tracts of land as protected areas/national parks has implications for the people who live within their boundaries
- Creates management issues for governments
- Affects the exploitation of natural resources
- Increases Tourism potential

Some regional Issues

- Invasive species
- Climate change
- Desertification
- Water
- Pollution
- Fisheries

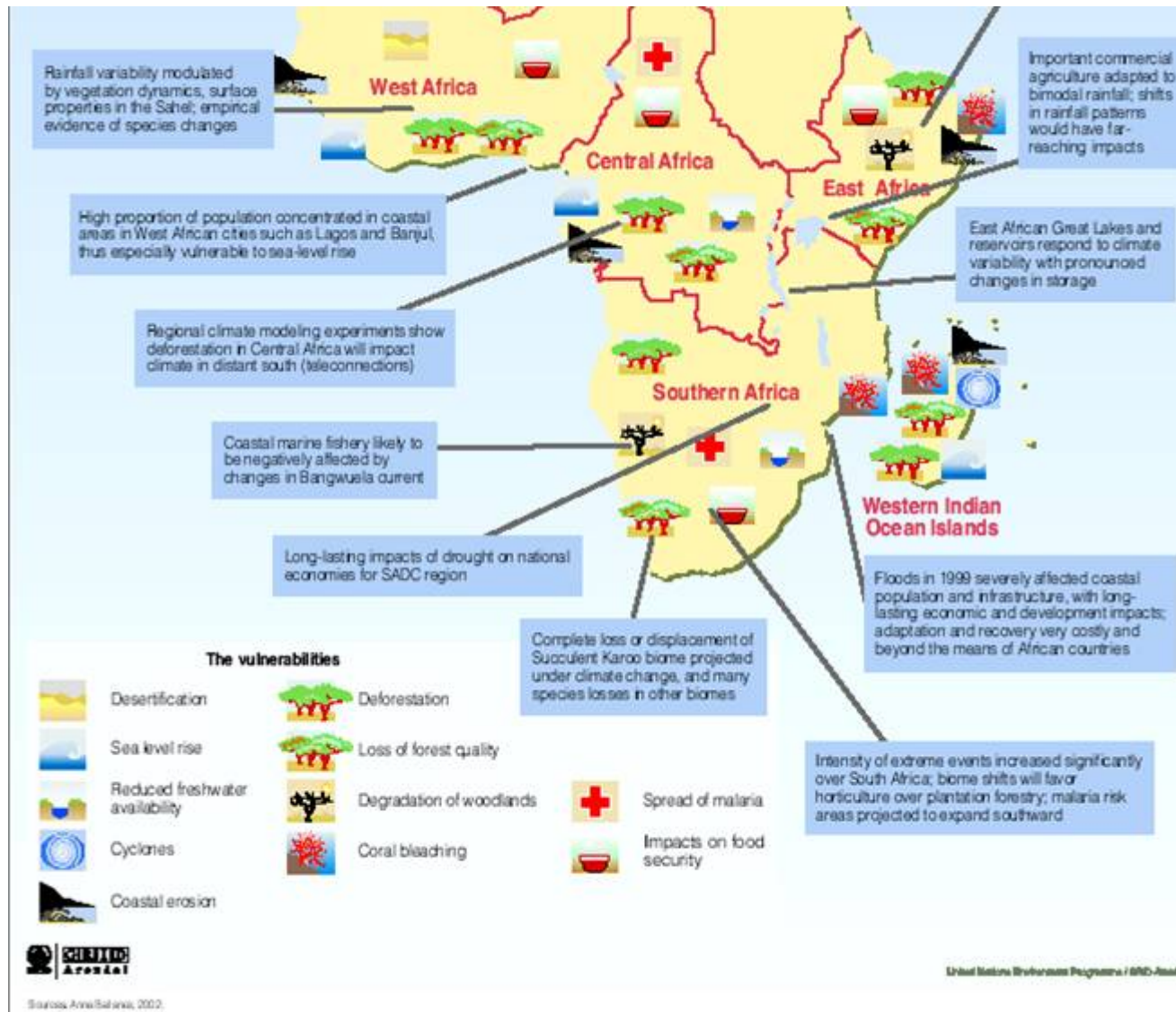
Invasive species



Geographical range

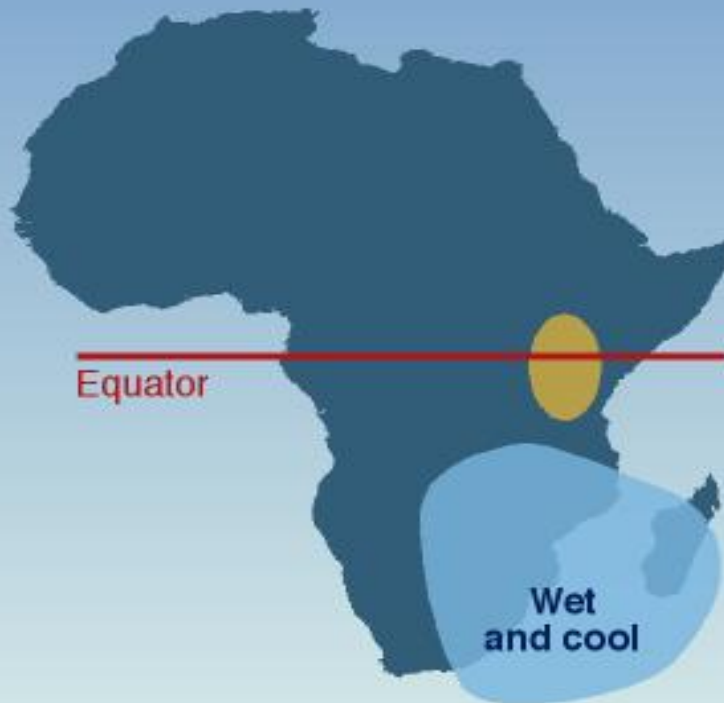
Native range: Native to the Indian subcontinent, the house mouse has accompanied humans to, and colonised, tropical, temperate, semi-desert, desert, and sub-antarctic regions throughout the world.

- *Probably has a world distribution more extensive than any mammal apart from humans. Its geographic spread has been facilitated by its commensal relationship with humans which extends back at least 8,000 years.*
- *Do considerable damage by destroying crops and consuming and/or contaminating food supplies intended for human consumption.*
- *Prolific breeders, sometimes erupting and reaching plague proportions.*
- *Have also been implicated in the extinction of indigenous species in ecosystems they have invaded and colonised which are outside their natural range.*

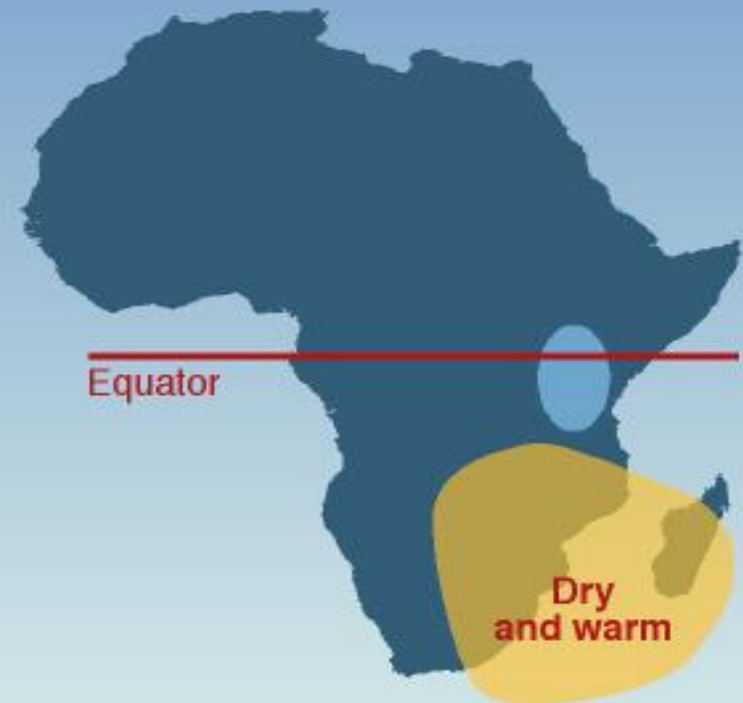


El Niño Southern Oscillation

La Niña
(1999-2000)



El Niño
(1997-1998)



Threats to the Coral Reef



Source: WRI, ICLARM and UNEP, 1998.

Water

- Distribution of surface water is uneven

Major sources:

Rivers – Nile, Orange, Gambia, Congo, Niger, Zambesi, Limpopo

Lakes: Victoria, Chad, Malawi, Tanganiyika

- Abstraction rates of ground water in some instances exceed the rate of replacement
- Increasing demand for water from urbanisation, industrialisation, agriculture

Pollution

- Increased urbanisation
- Mining operations
- Tourism
- Agriculture
- Industrial wastes – e.g. byproducts of sugar manufacturing