

## Evaluating African Protected Areas

### Description

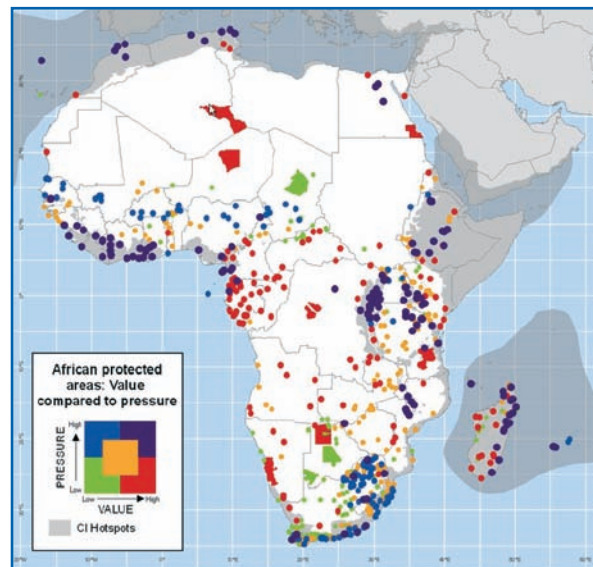
The EU has made significant commitments to halt the loss of biodiversity and in assisting developing countries in addressing the issue of the continued loss of biodiversity.

The EC recognizes the crucial role of Protected Areas in biodiversity protection, conservation and the sustainable use of natural resources. From the late eighties the EC commitment in supporting Protected Areas and conservation policies at national and regional level has regularly increased and the EC is now an essential donor and stakeholder for biodiversity issues in most of the African countries. Most of the biggest and successful programmes to support conservation and PAs management - i.e. ECOFAC in Central Africa (€ 115M in 15 years) and ECOPAS in Western Africa (€ 24M in 7 years), among others - have been funded by the EC.

The EC is therefore targeting significant sums towards protected areas in Africa, but often without access to the necessary information to address critical issues such as:

1. Identify the key questions for long- term decisions
2. Evaluate the current value of PAs
3. Evaluate the current threats on PAs
4. Evaluate the future threats on PAs
5. Adapt the distribution of PAs

In response to this need for effective information to support policy planning and monitoring, the Global Environment Monitoring Unit (GEM), in the context of the work of the African Observatory, has created a dynamic system which integrates heterogeneous data (geospatial, statistical, observations) to develop composite indicators of vulnerability (<http://www-tem.jrc.it/PA/index.html>).



This initiative aims to provide African Nations and Official Development Assistance programmes with a systematic, impartial and quantitative system with which to characterise biodiversity value, ecosystems and threats, and to inform users about the status of, and pressures on Protected Areas in Africa.

In situ data from various sources such as the African Mammals Databank document geographical extent of bird, amphibian and mammal species are combined with routine, and archived environmental observations from satellite, such as fire occurrence and vegetation condition along with climatic data, and threats are determined by measurements of agricultural expansion and population/transport infrastructure.

Biodiversity data are cross referenced to The Environmental Performance Index from CIESIN/Yale/JRC; The World Development Indicators from The World Bank; The Millennium Development Goal assessments, and; EarthTrends from the World Resources Institute.

These data are available on website <http://www-tem.jrc.it/PA/index.html>

This system improves capacity to judge effectiveness of local protected areas, including local management decisions and improves capacity to monitor pressures and threats to existing Protected Areas.

## Relevance to GEO

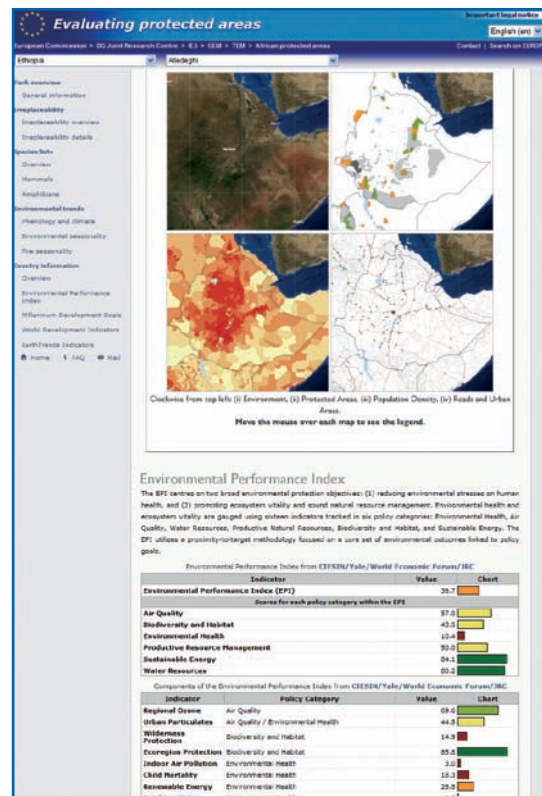
The system is highly relevant for at least the following two GEOSS Societal Benefit Areas:

- Biodiversity – Understanding, monitoring, and conserving biodiversity
- Ecosystems – Improving the management and protection of terrestrial, coastal and marine resources

It assures flow of environmental variables as observed from satellite, improve acquisition of in situ observations and improve access to results.

It contributes to the GEO Work Plan

- BI-07-P1: Biodiversity observation and monitoring. Implement coherent biodiversity observation strategies within the context of an agreed ecosystem classification system based on EC-06-02 and the strategic plan of BI-06-04. Facilitate the establishment of monitoring systems that enable frequent, repeated, globally coordinated assessment of trends and distributions of species and ecosystems of special conservation merit. Facilitate consensus on data collection protocols and the coordination of the development of interoperability among monitoring programs.
- BI-07-P2: Protected Areas Mapping and Monitoring. Apply Earth observation to the characterization, mapping and monitoring of global protected areas consisting of World Heritage sites, natural areas, sites of cultural, geological and archaeological significance. Use earth observation and other geospatial data to support the delineation and update of protected areas boundaries. Improve dissemination of earth observation data to protected area planners and managers



## Participants

- European Commission
- UNEP WCMC,
- Birdlife Africa Partnership

## Current Status and Next Steps

Currently the system includes 741 Protected areas across the whole of Africa and Madagascar. Current analysis includes 1591 bird, mammal and amphibian species – all checked with the most recent IUCN Red List of Threatened Species. Environmental status is based on near real time continent-wide satellite image processing and archived material

Long-term continuity is needed for the satellite image acquisitions and data processing, and also for in situ species observations within protected areas.

Currently gaps/challenges are:

Satellite observation of more environmental variables; improved National data collection, e.g. on species distributions; expansion to other geographic regions beyond Africa and to Marine ecosystems.