



BIOPAMA

Biodiversity and Protected Areas Management

Grégoire Dubois

gregoire.dubois@jrc.ec.europa.eu

Global Environment Monitoring Unit, Institute for Environment & Sustainability
Joint Research Centre



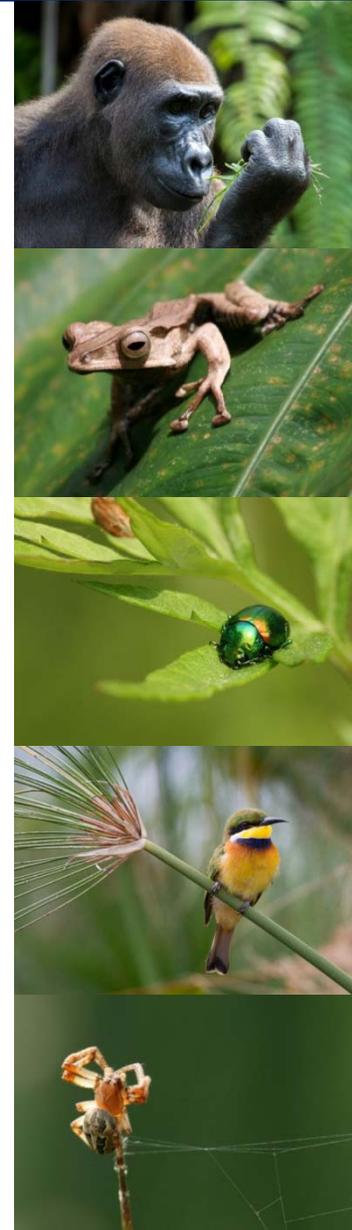
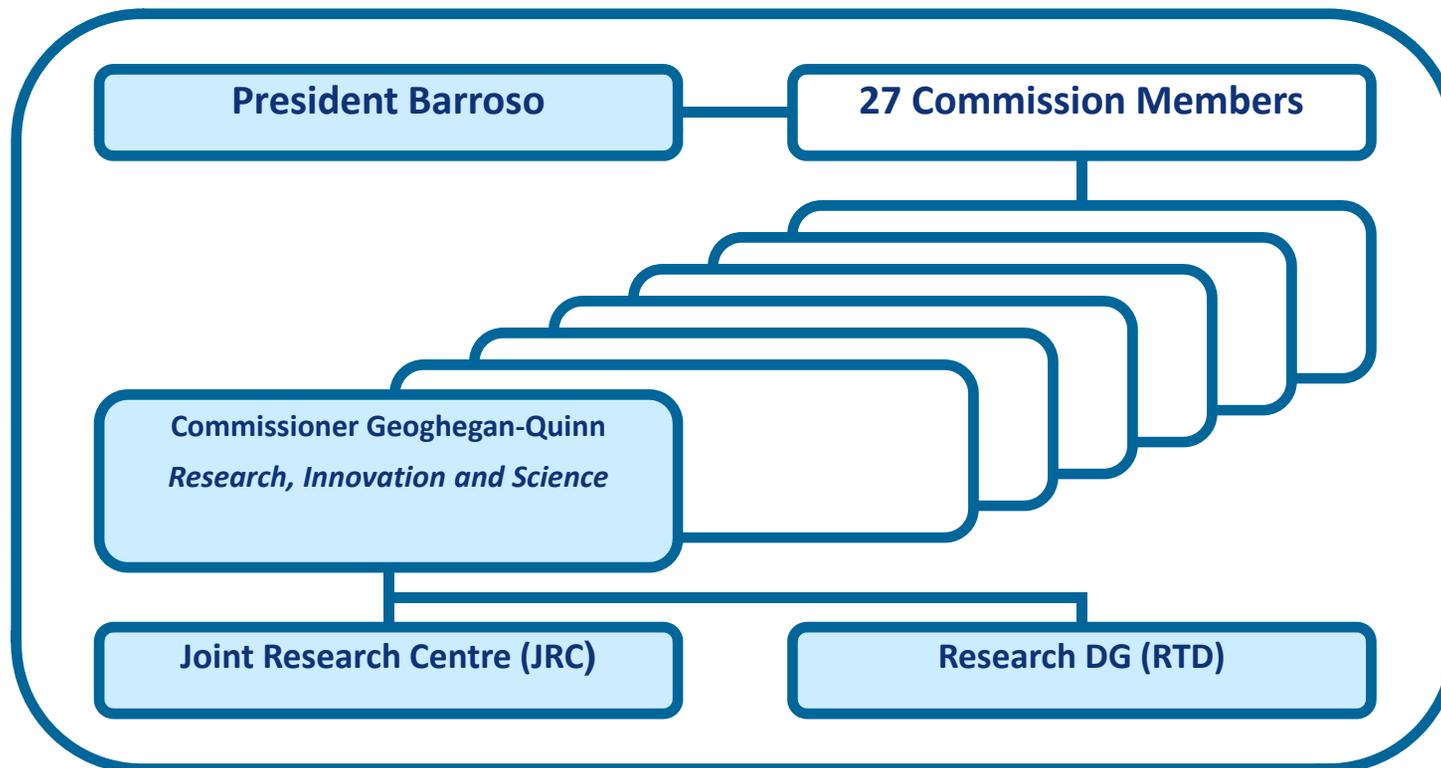
JRC – Robust science for policy making

As a **Directorate-General**
of the European Commission,
the JRC provides customer-driven
scientific and technical support
to Community policy making

Supporting citizen's security, research on
energy, environment, transport, climate
change, safety of food and consumer
products, security, crisis management,
nuclear safety and security



Where does the JRC fit in the European Commission?



The Mission

... is to provide customer-driven **scientific and technical support** for the conception, development, implementation and monitoring of EU policies. As a service of the European Commission, the JRC functions as a **reference centre** of science and technology for the Union.

Close to the policy-making process, it serves the common interest of the Member States, while being **independent of special interests**, whether private or national.

The Vision

...is to be a trusted provider of science-based policy options to EU policy makers to address key challenges facing our society, underpinned by internationally recognised research.



Our Structure: 7 Institutes in 5 Member States

IRMM – Geel, Belgium

Institute for Reference Materials and Measurements

ITU – Karlsruhe, Germany

Institute for Transuranium Elements

IE – Petten, The Netherlands and Ispra, Italy

Institute for Energy

IPSC – Ispra, Italy

Institute for the Protection and Security of the Citizen

IES – Ispra, Italy

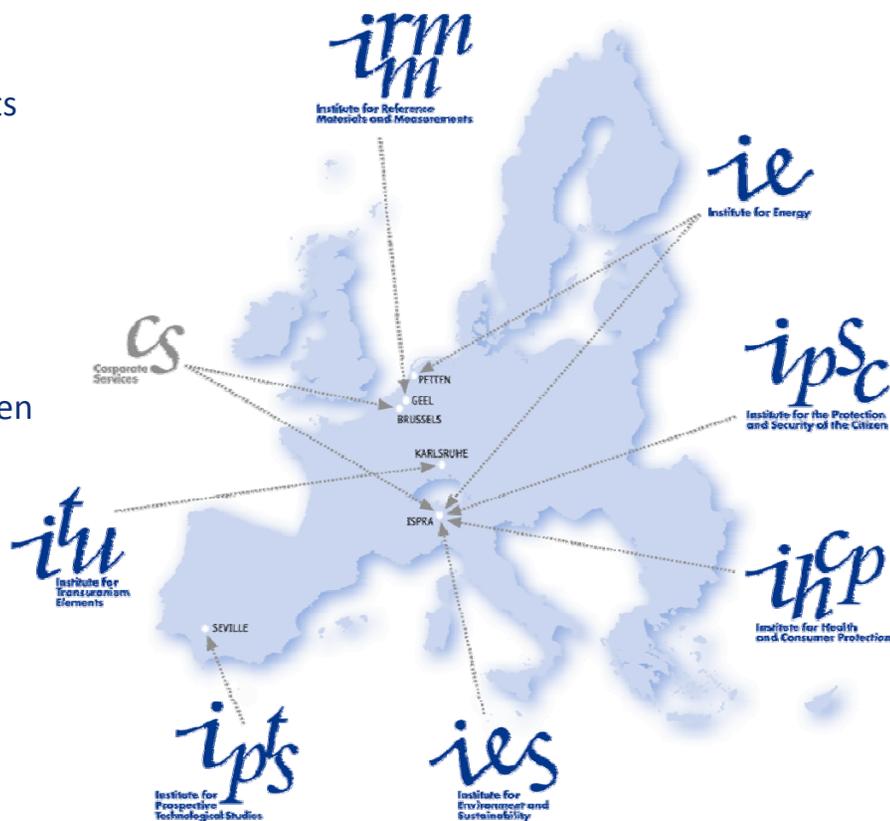
Institute for Environment and Sustainability

IHCP – Ispra, Italy

Institute for Health and Consumer Protection

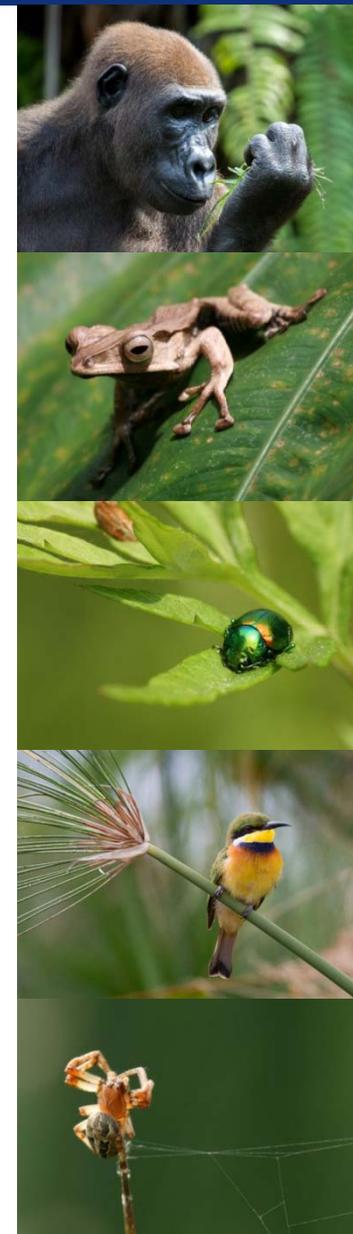
IPTS – Seville, Spain

Institute for Prospective Technological Studies

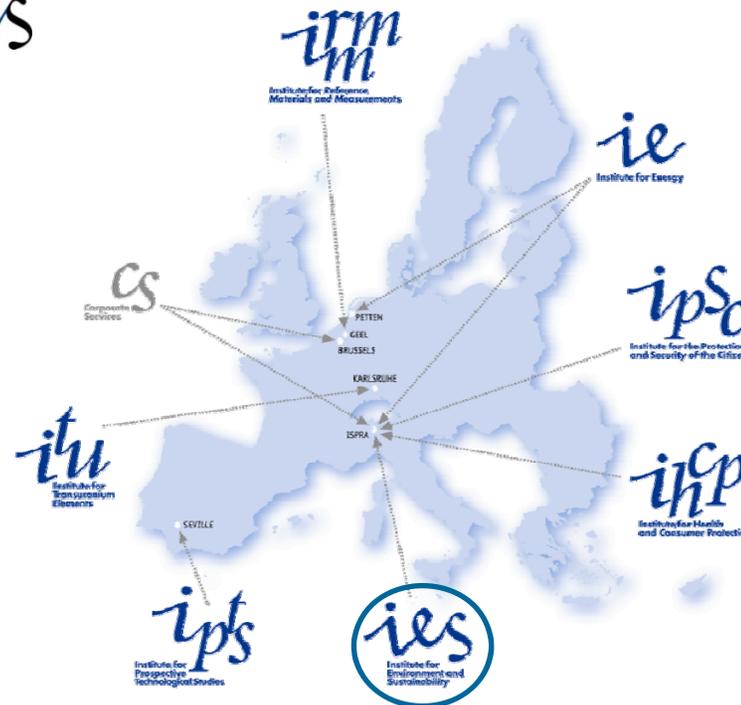


~ 2750 staff

~ 345 M€y institutional budget (+ 60 M€y earned income)



The **Global Environment Monitoring Unit (GEM)** is one of six scientific units that make up the *ies*



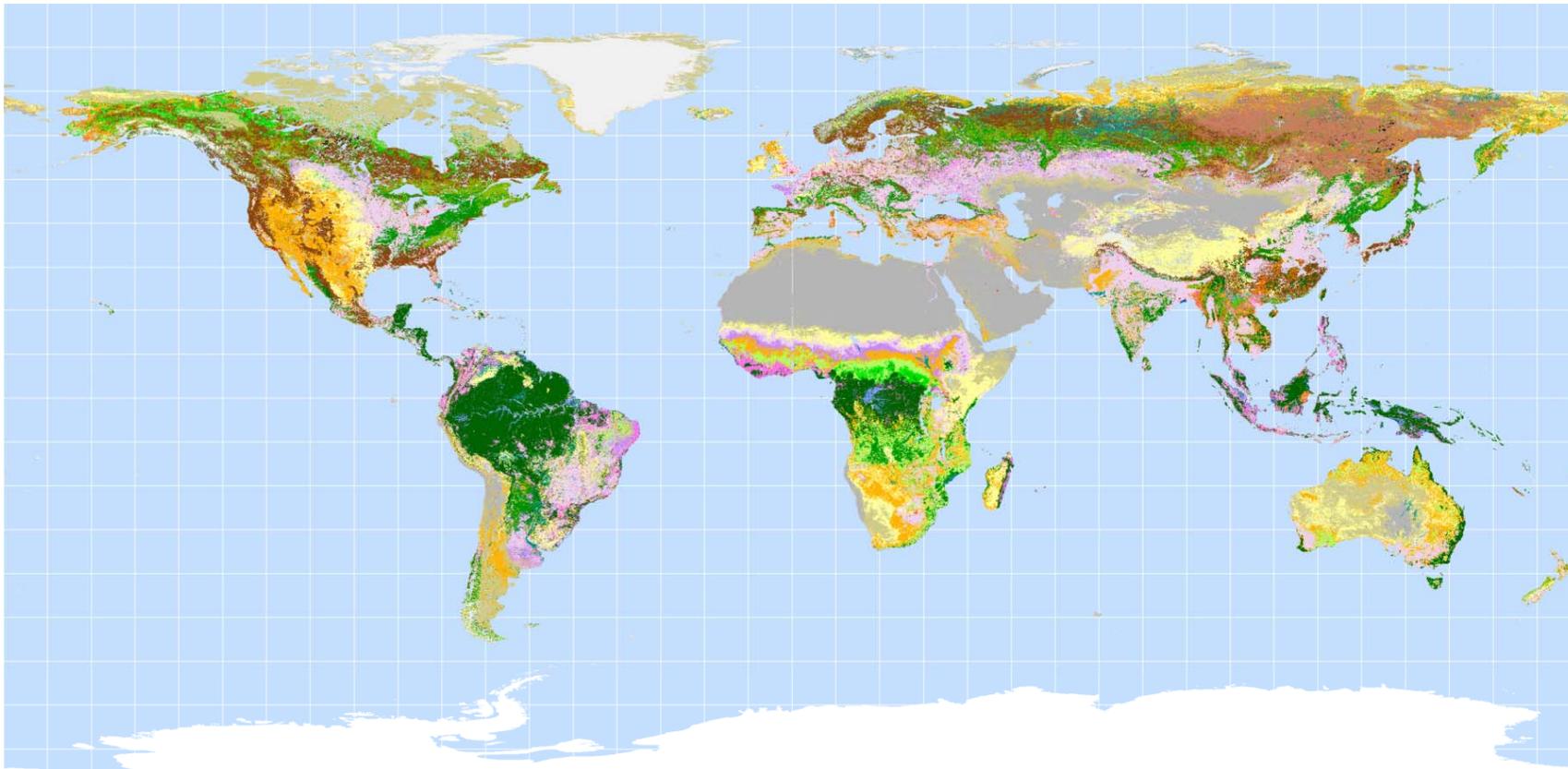
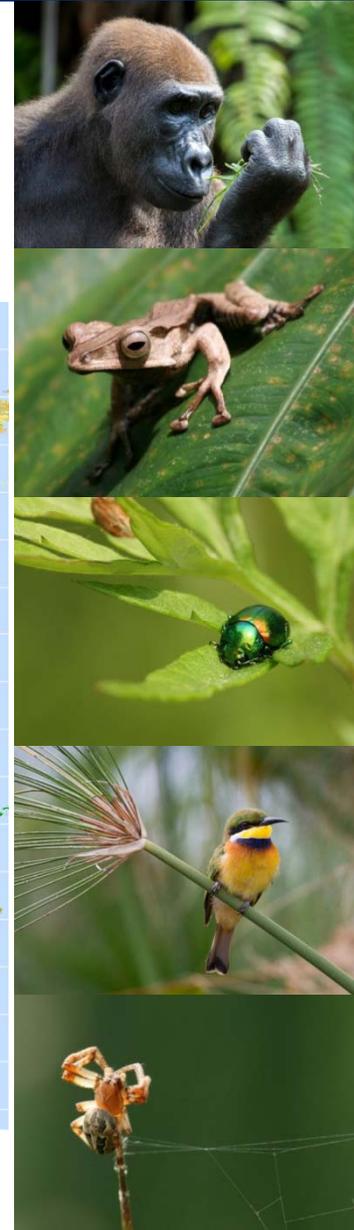
The GEM Unit delivers **products** and **services**, derived mainly from the analysis of satellite **remote sensing** data, to help the European Commission in its work with multilateral environmental agreements (*climate change, biodiversity, Europe's marine environment, global forest law enforcement*)



Dakar, May 2011

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Example of a **product** of GEM for technical and scientific support to European policy: *The **Global Landcover 2000*** (coordination and implementation)

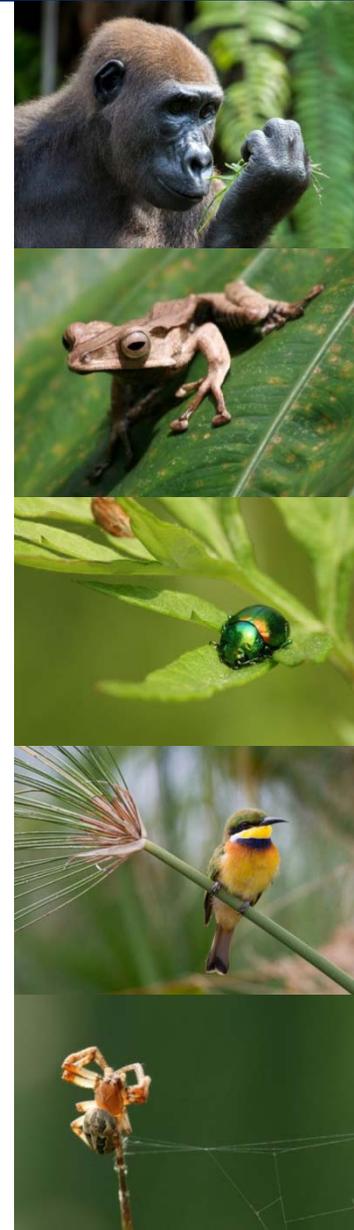
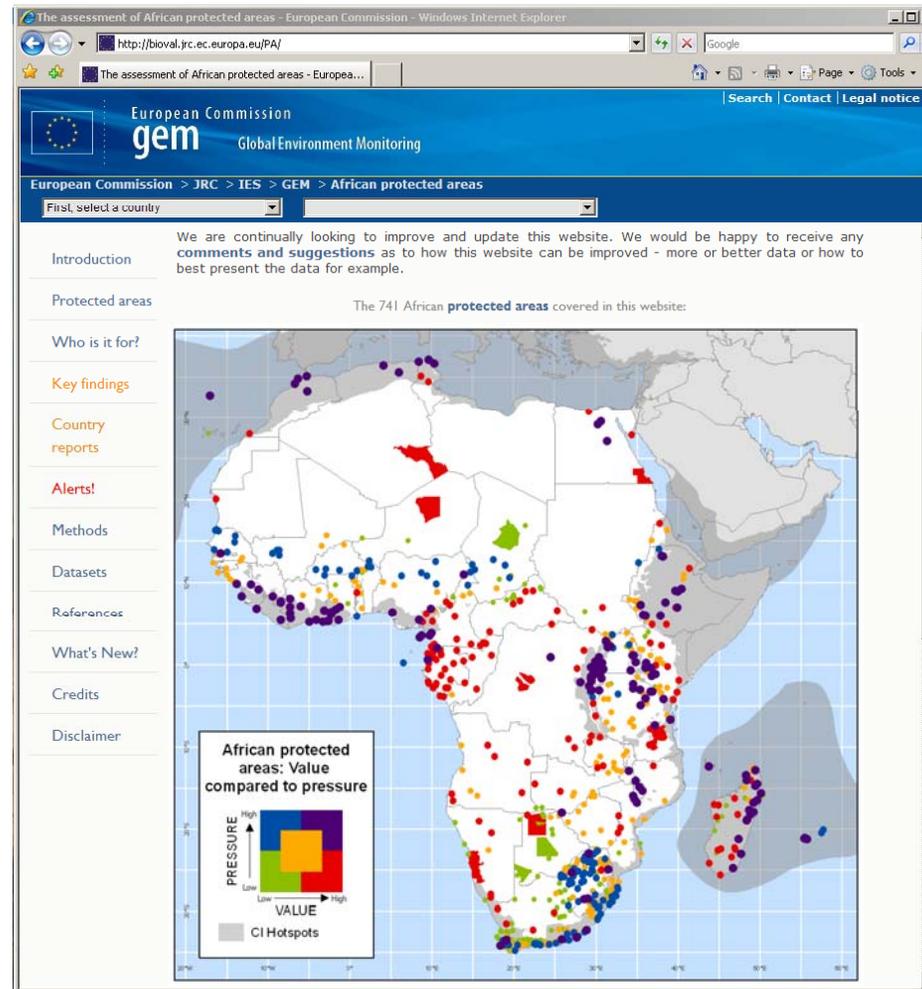


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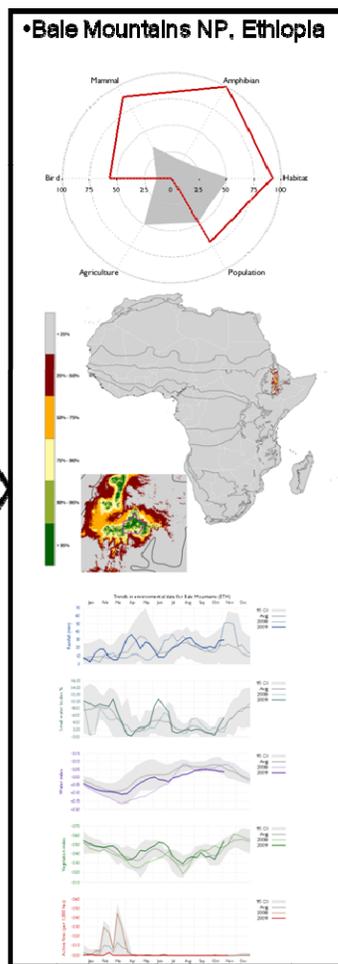
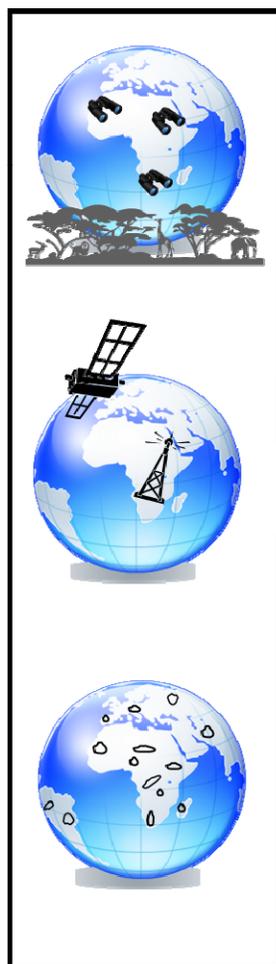
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Example of a **service** of GEM for technical and scientific support to European policy: The African Protected Areas Assessment Tool (**APAAT**)

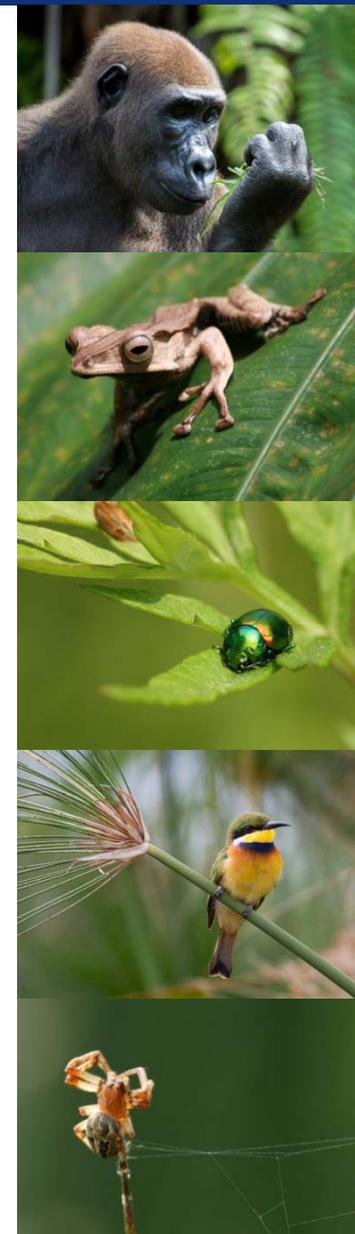
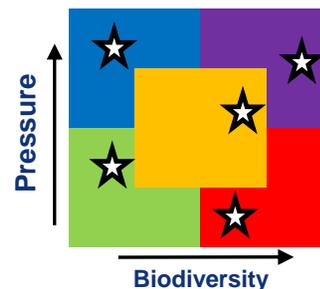
The purpose of the **APAAT** is to provide to decision makers an assessment of the state of African PAs and to prioritize them according to biodiversity values and threats so as to support decision making and fund allocation processes



JRC has developed a tool to **assess and prioritize Protected Areas in Africa** according to biodiversity values and threats, using objective, continent-wide datasets



Indicators on anthropogenic pressure and species irreplaceability



Results of the Assessment of African Protected Areas

Analysed:

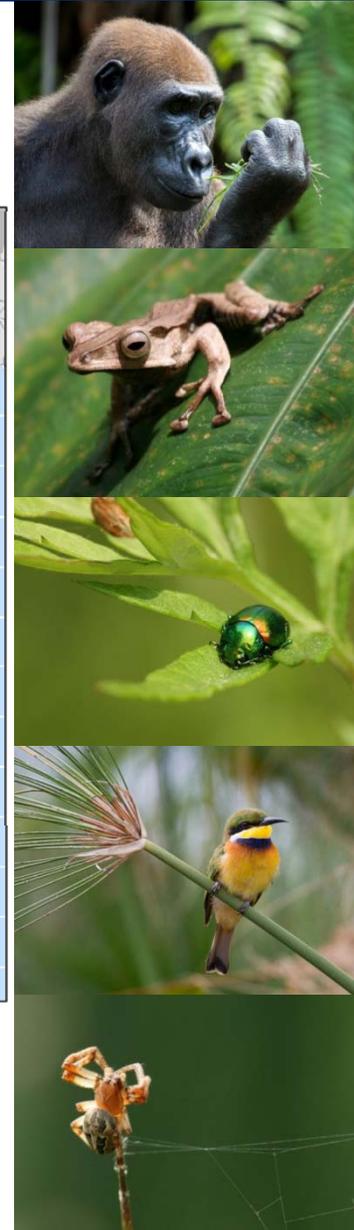
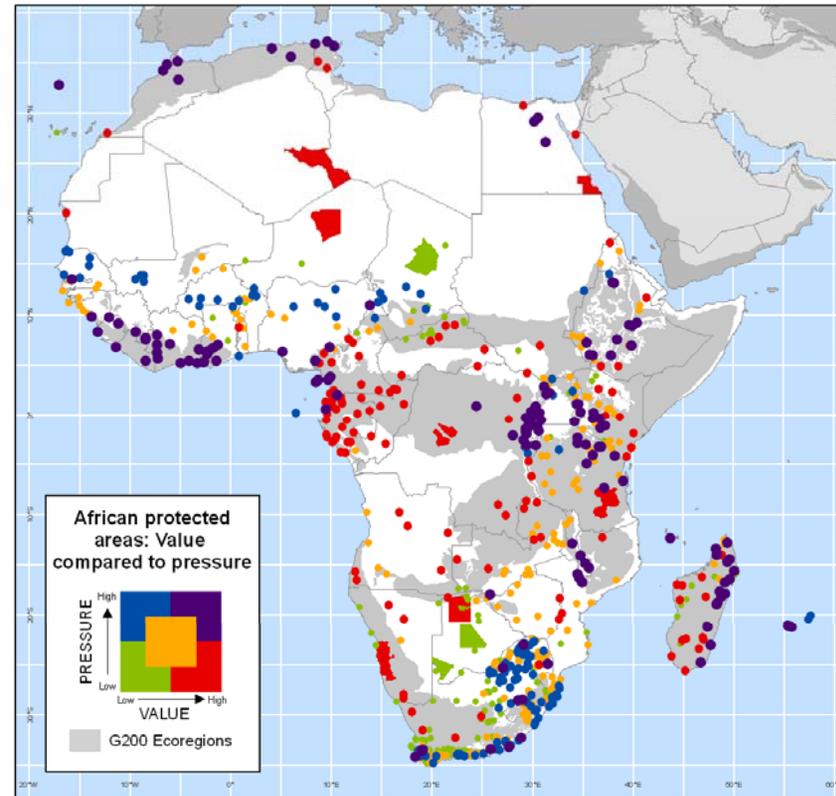
- 741 protected areas
- across 50 countries

Used:

- information on 280 mammal, 381 bird and 930 amphibian species
- wide range of climatic, environmental and socioeconomic information

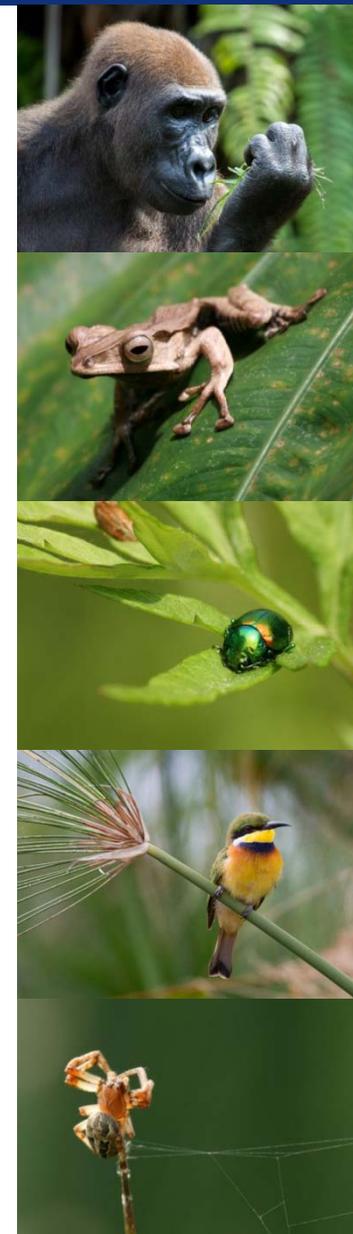
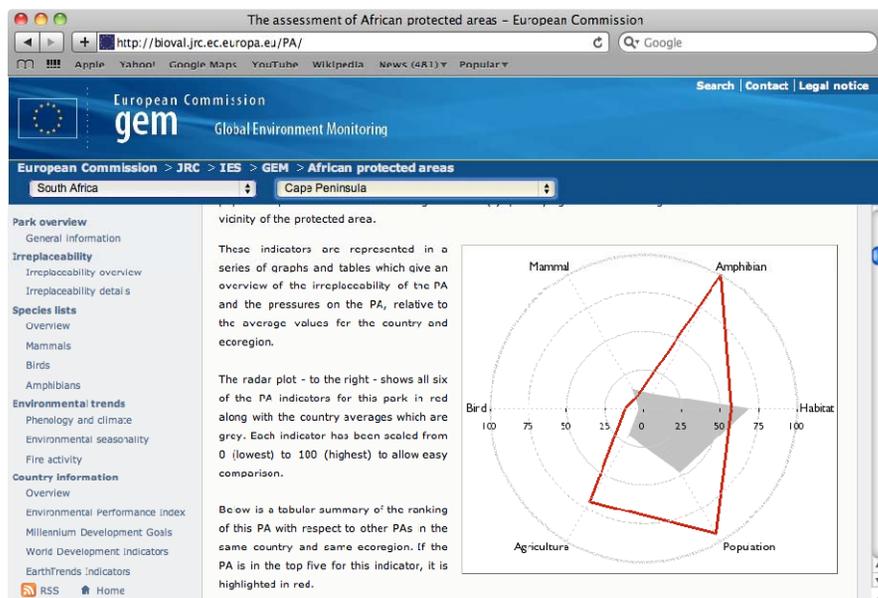
Produced:

- Biodiversity indicators
- Index for habitat irreplaceability
- Indicator for anthropogenic pressure



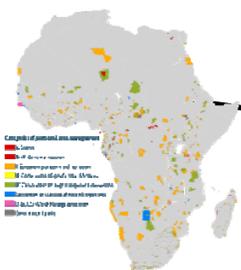
DEMO: the Assessment of African Protected Areas

<http://bioval.jrc.ec.europa.eu/APAAT/>

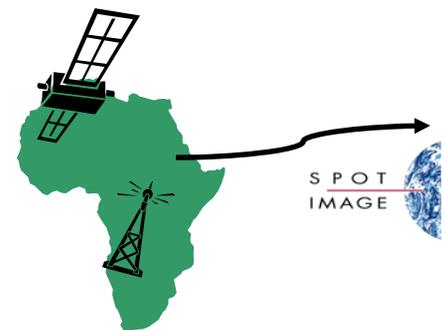


Reference: Hartley, A., Nelson, A., Mayaux, P. and Grégoire, J-M. (2007). *The Assessment of African Protected Areas*. JRC Scientific and Technical Reports. Office for Official Publications of the European Communities, Luxembourg, EUR 22780 EN. 77p.

1. Observations and Data Collection



2. Data Management and Quality Assurance



3. Data integration and analysis



4. Decision-support V.1.0

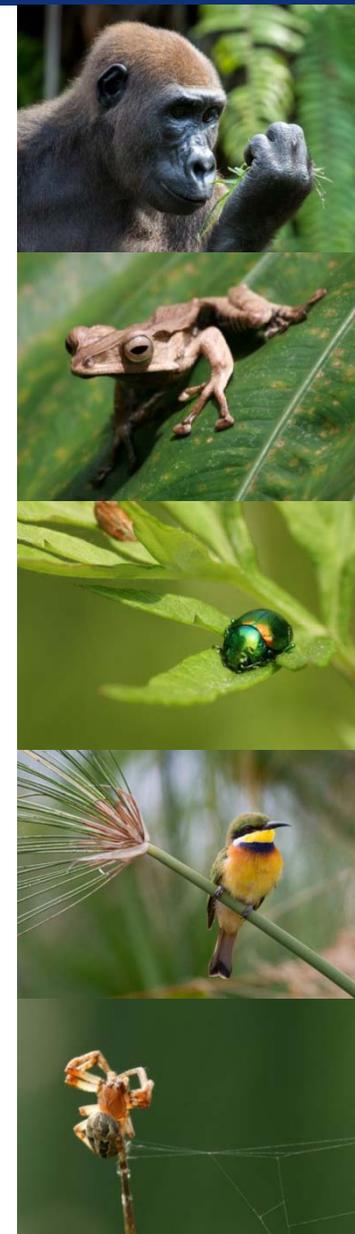
- Maintenance cost high
- Unilateral flow
- Little is automated (no repeated assessment)
- Reuse of information produced is difficult



Why DOPA a Digital Observatory for Protected Areas?



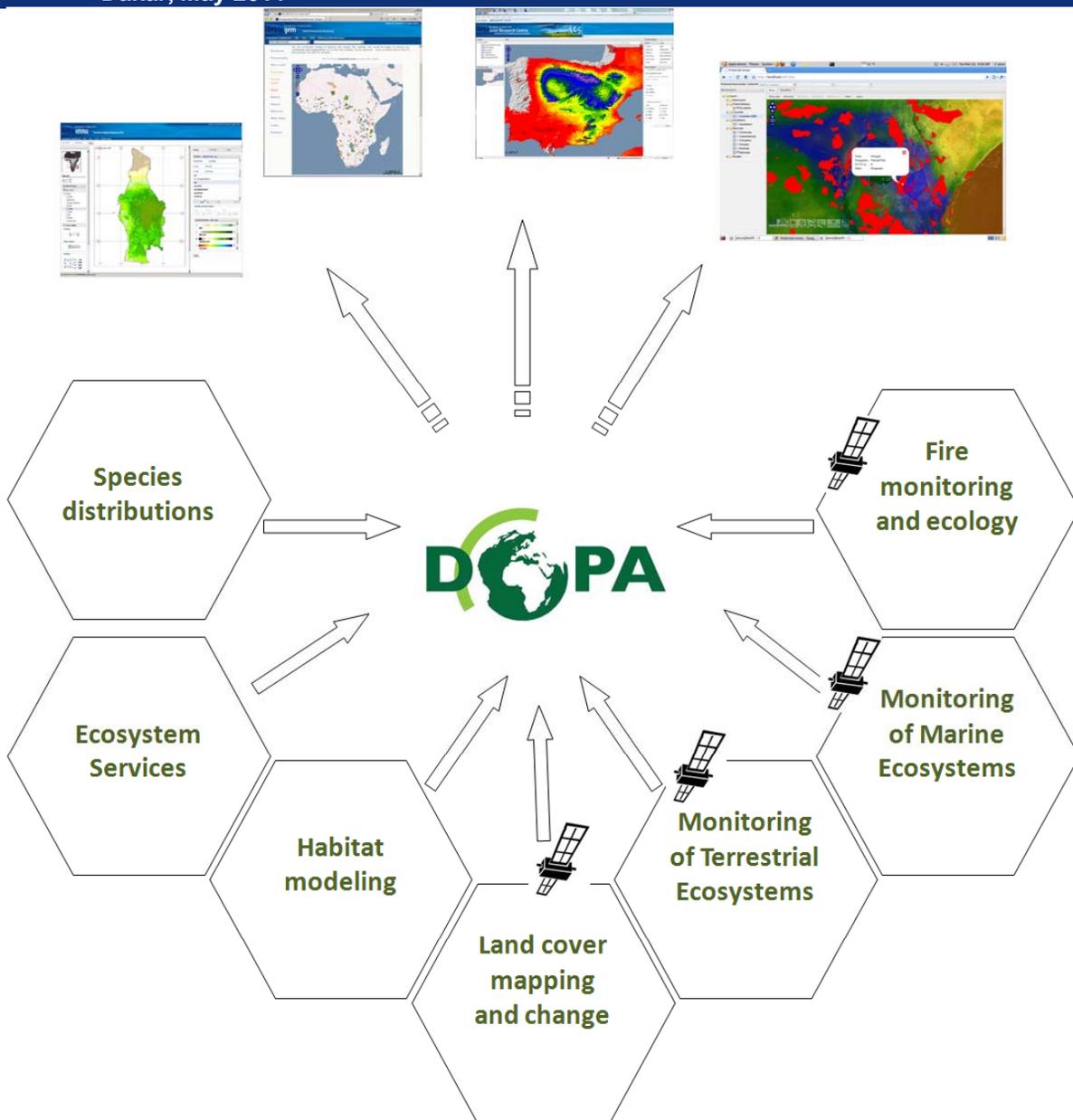
<http://dopa.jrc.ec.europa.eu/>



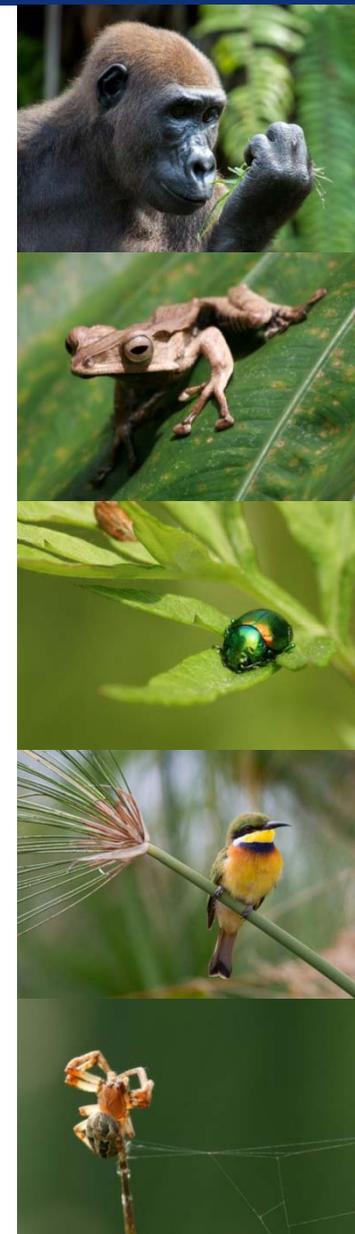


- 1) Environmental issues are Global and there is a need for **global reference** data and information systems
- 2) We need to go **beyond the boundaries** of Protected Areas (connectivity, fragmentation are major issues)
- 3) Increase **reusability** of data, models and IT infrastructure for improved communication and exchange
- 4) Capture ecological information **from the ground** as well as **from space**
- 5) **Automate** data exchange and modelling for ensuring repeated assessments



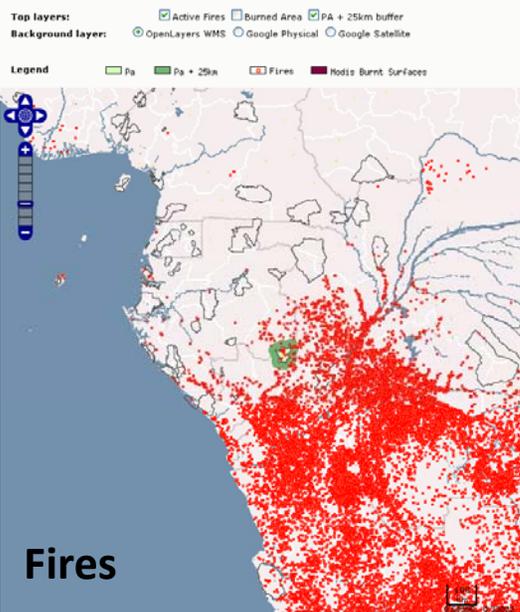


DOPA is based on a set of Web Services to Assess, Monitor, and Forecast Biodiversity at the Global Scale

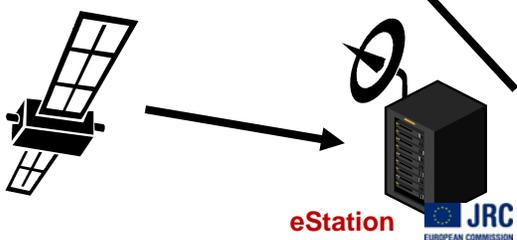
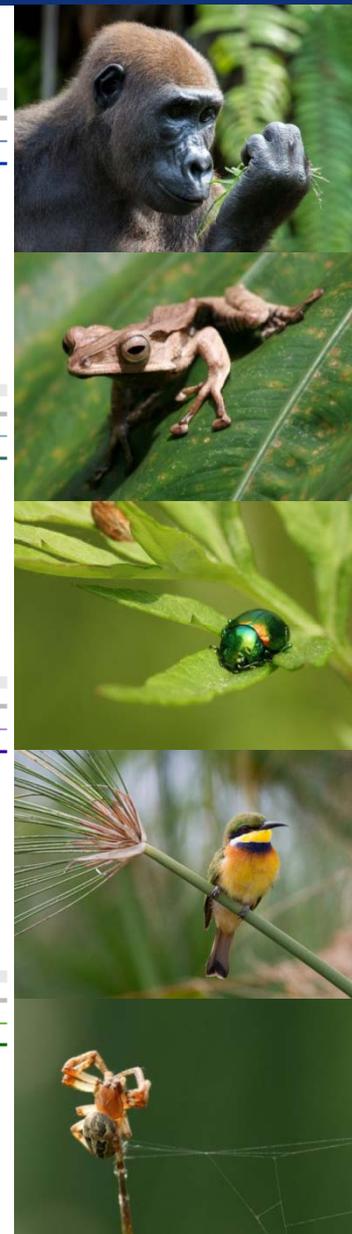
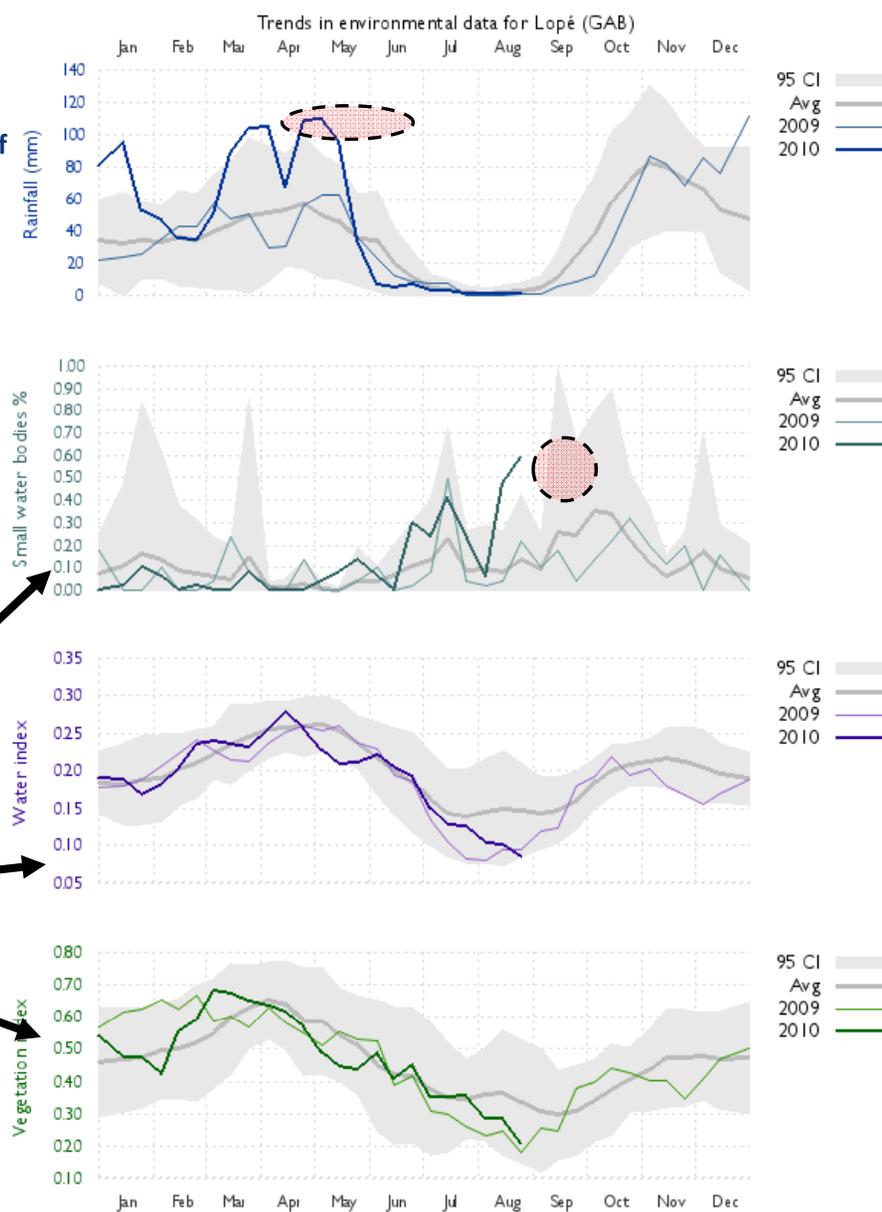


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African Monitoring of the Environment for Sustainable Development



THE GLOBAL EARTH OBSERVATION
SYSTEM OF SYSTEMS



Climate Change

Agriculture

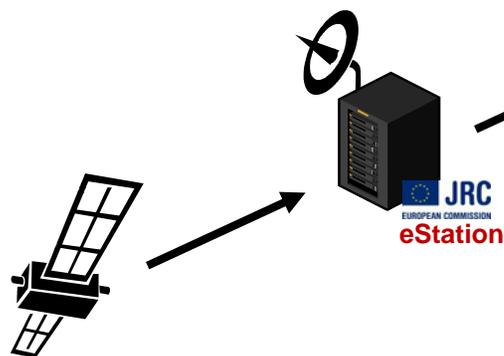
Deforestation

Input thematic maps:

- % tree cover
- % herbaceous cover
- % barren cover
- Elevation
- Slope
- Aridity index
- % water bodies
- NDVI
- NDWI
- **OTHERS**

Habitat modelling

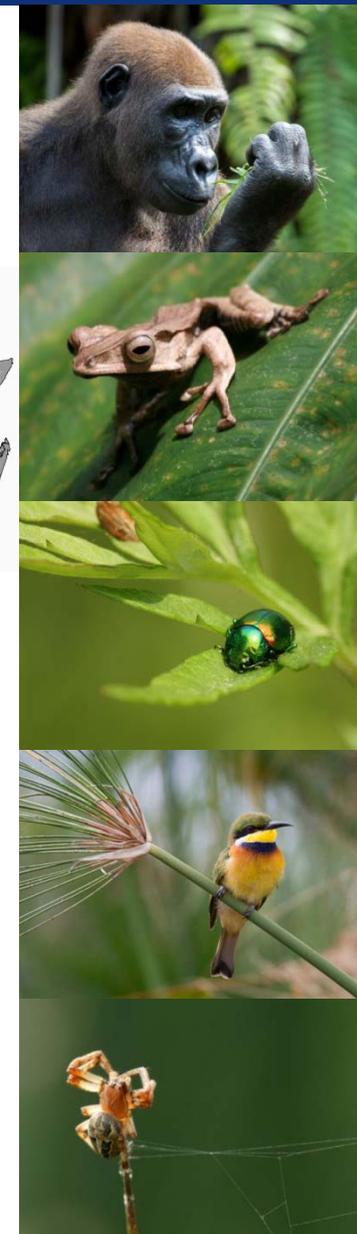
Mahalanobis Distances, Maximum Entropy



Other sources



eHabitat: the climate change scenario
<http://ehabitat.jrc.ec.europa.eu/ehabitat/>



What about **Management & Governance**?

What about **Socio-Economic** indicators and the integration of PAs in the local economy?

What about larger communities of **End-Users**?

What about larger communities of **Contributors**?

What about **Capacity Building** for potential end-users and contributors?



**Going beyond a pure scientific exercise,
BIOPAMA links with the communities!**



BIOPAMA



**Biodiversity and
Protected Areas Management
in the ACP regions**

**15 Mio € , European Development Fund
(4 years 2011-2015)**



Objectives

1) Based on the best available science and knowledge, to **enhance existing institutions and networks** by building their capacity to strengthen policy and to implement well informed **decisions on biodiversity conservation** and protected areas management, and access and benefit sharing.



Objectives

2) We will assist the ACP countries in developing a framework for **improving technical and institutional approaches through capacity building** and regional cooperation to manage biodiversity conservation, particularly in PAs, and to benefit better from ABS mechanisms.



Objectives

3) We want to contribute to ensure biodiversity conservation and to **maintain the ecological services** provided by protected areas particularly **for the benefit of local populations**, in particular vulnerable populations such as indigenous peoples.



Based on the best available science and knowledge, meaning we will also...

- Collect data on **Management & Governance** from institutions & local actors
- Further collect **feedback from the ground** (species observations, threats and pressures, land cover change, management & governance, economics, PAs and local economy...)
- Engage with more stakeholders to access larger communities of **end-users**
- Increase the community of **contributors, partners and end-users**
- Where necessary, develop the **capacity building** activities targeting the potential end-users and contributors



Deliverables

“3 Observatories for Protected Areas and Biodiversity” in each region involved (Africa, Caribbean, Pacific)

These Observatories will include various dimensions:

- 1) developing and progressively implementing **Capacity Building Programmes**,
- 2) **coordinating the support** (experts, infrastructure) to national services and regional organizations,
- 3) **facilitating networking** of experts and institutions,
- 4) developing and implementing a **Communication and Awareness Raising Programme**.



Setting up the foundations of BIOPAMA

- 1) Because you are at the same time the potential end-users, contributors and partners, BIOPAMA needs your support
- 3) Share your information and data, to expose your strengths and weaknesses
- 4) Share your information and data for quality control and for adding value to your information
- 5) Share your information and data for reinforcing your mandate



Thank you for your attention.

Gregoire.Dubois@jrc.ec.europa.eu