



United Nations
Educational, Scientific and
Cultural Organization



Earth science
education initiative
in Africa.

UNESCO Earth Science Education Initiative in Africa

Initial Activities

S. Felix Toteu¹ and Sarah Gaines²

¹UNESCO Nairobi Office, Kenya

²UNESCO Headquarters, Paris

*In Arusha, Tanzania on 8 May 2008
at the regional launch of the
International Year of Planet Earth*



***Confident that Earth Sciences play an essential role in
fostering a safer, healthier and more sustainable planet,***

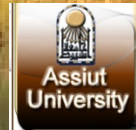
**UNESCO proposed launching an
Earth science education programme
for all of Africa.**



Five regional workshops took place in 2009-2010 to scope the initiative by identifying capacities, needs and strategies:



Assiut, Egypt (October 26-27)



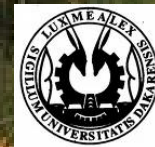
Luanda, Angola (November 12-13)



★ Cape Town, South Africa (November 26-27)



Dakar, Senegal (December 9-10)



Kinshasa, DRC (February 4-5)





Earth science
education initiative
in Africa.

Organizational partners

Geological Society of Africa

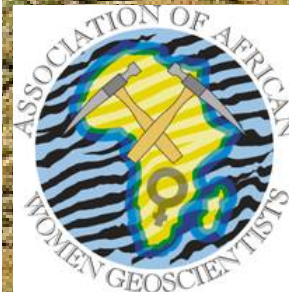
International Center for Training and Exchanges in the
Geosciences (CIFEG)

African Association of Women Geoscientists

Royal Museum of Central Africa

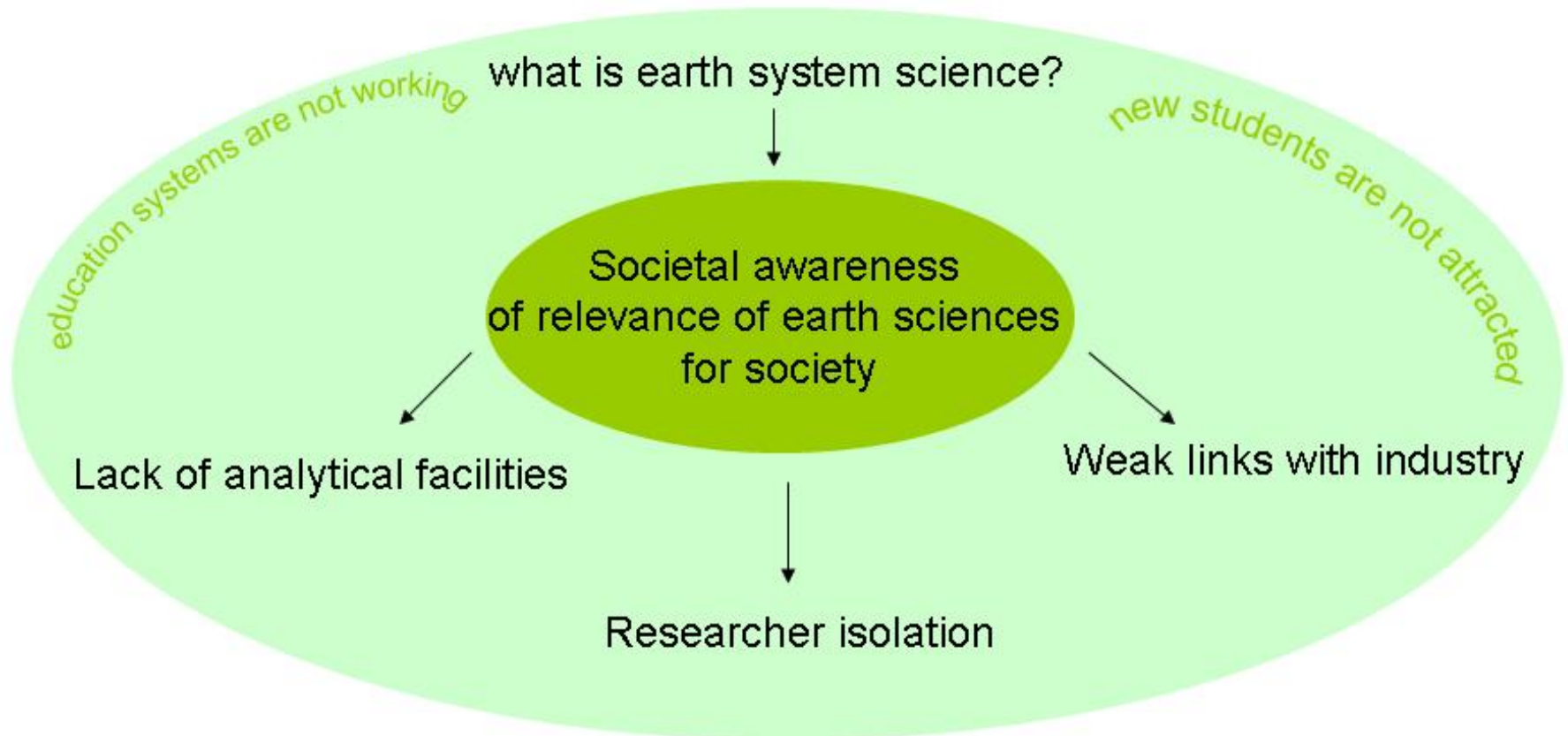
IYPE

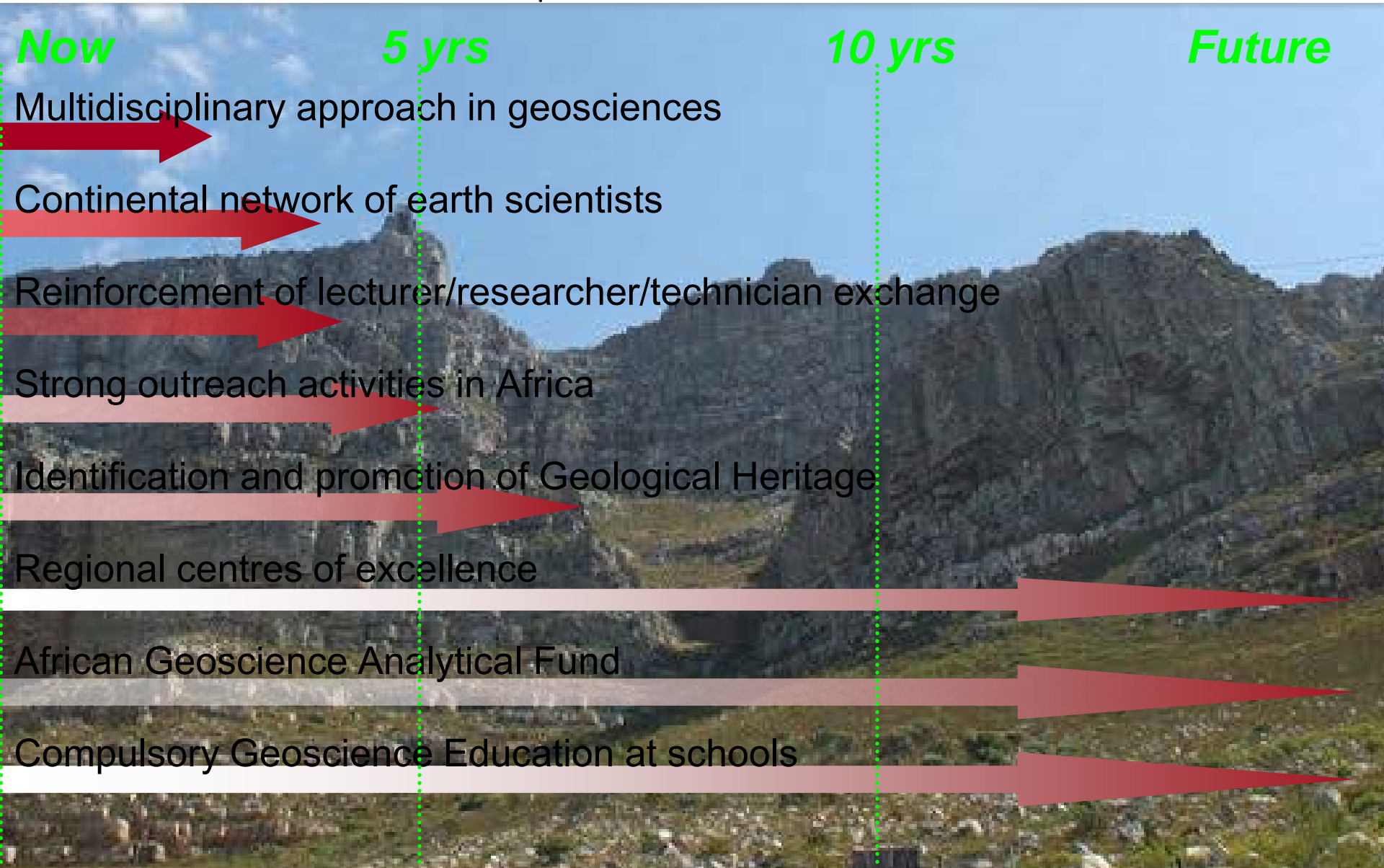
IUGS





**Regional differences exist,
but there are continental similarities:**





GEOPARKS



Cairo Office
مكتب
القاهرة

جامعة شعيب الدكالي
Universiti Chaouh Dookkal



First International Conference on African & Arabian Geoparks المؤتمر الدولي الأول للمنتزهات الجيولوجية الإفريقية و العربية

El Jadida, Morocco, 21- 28 November 2011



Aspiring Geoparks in Africa and Arab World

<http://www.africangeoparksnetwork.org>

Main sponsor



Sponsored by

Supported by



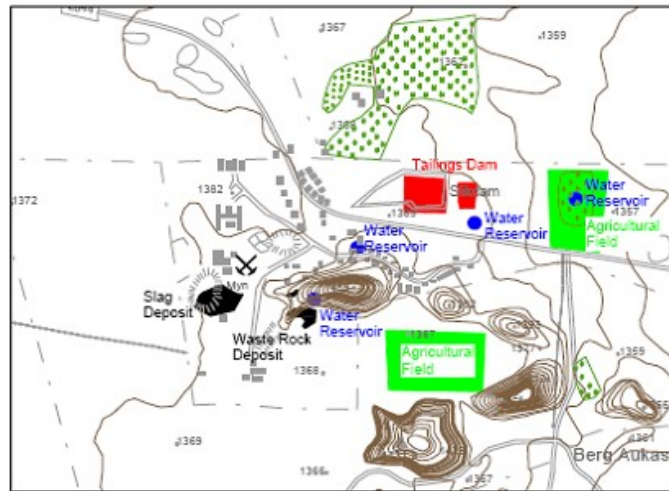
**INTERNATIONAL
GEOSCIENCE
PROGRAMME:
*Environmental and
Health impacts of
mining in Africa***

**Children, girls and women
are important targets of our
education activities**

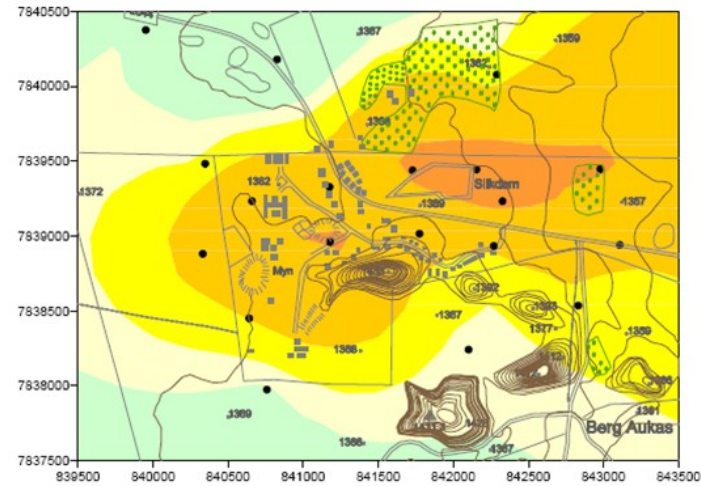


A successful case of policy advise

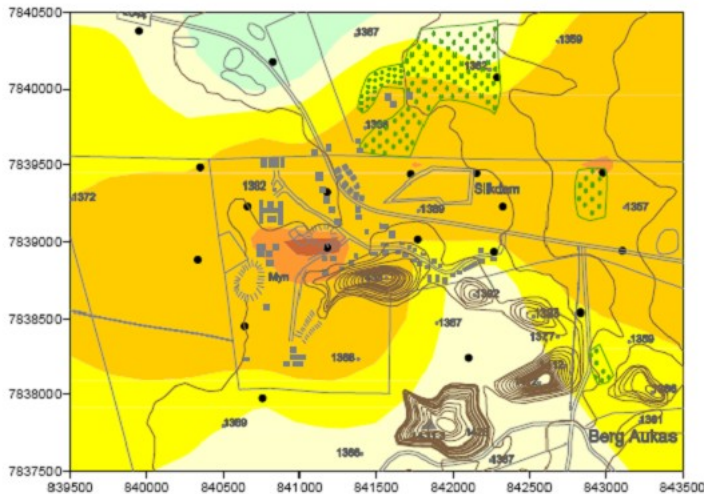
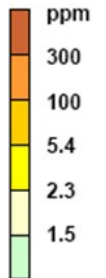
Pb, V, and Zn Berg Aukas abandoned mine in Namibia



1 : 25,000
0 km 0.5 km 1 km 1.5 km 2 km



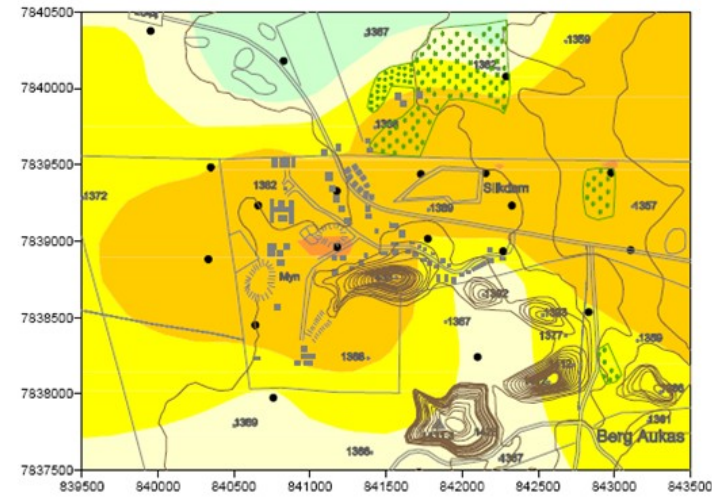
1 : 25,000
0 km 0.5 km 1 km 1.5 km 2 km



1 : 25,000
0 km 0.5 km 1 km 1.5 km 2 km



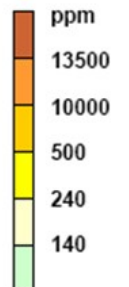
As
upper soil horizon

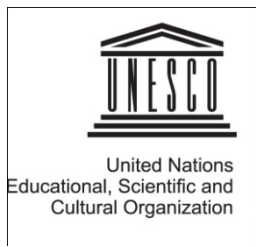


1 : 25,000
0 km 0.5 km 1 km 1.5 km 2 km



Pb
upper soil horizon

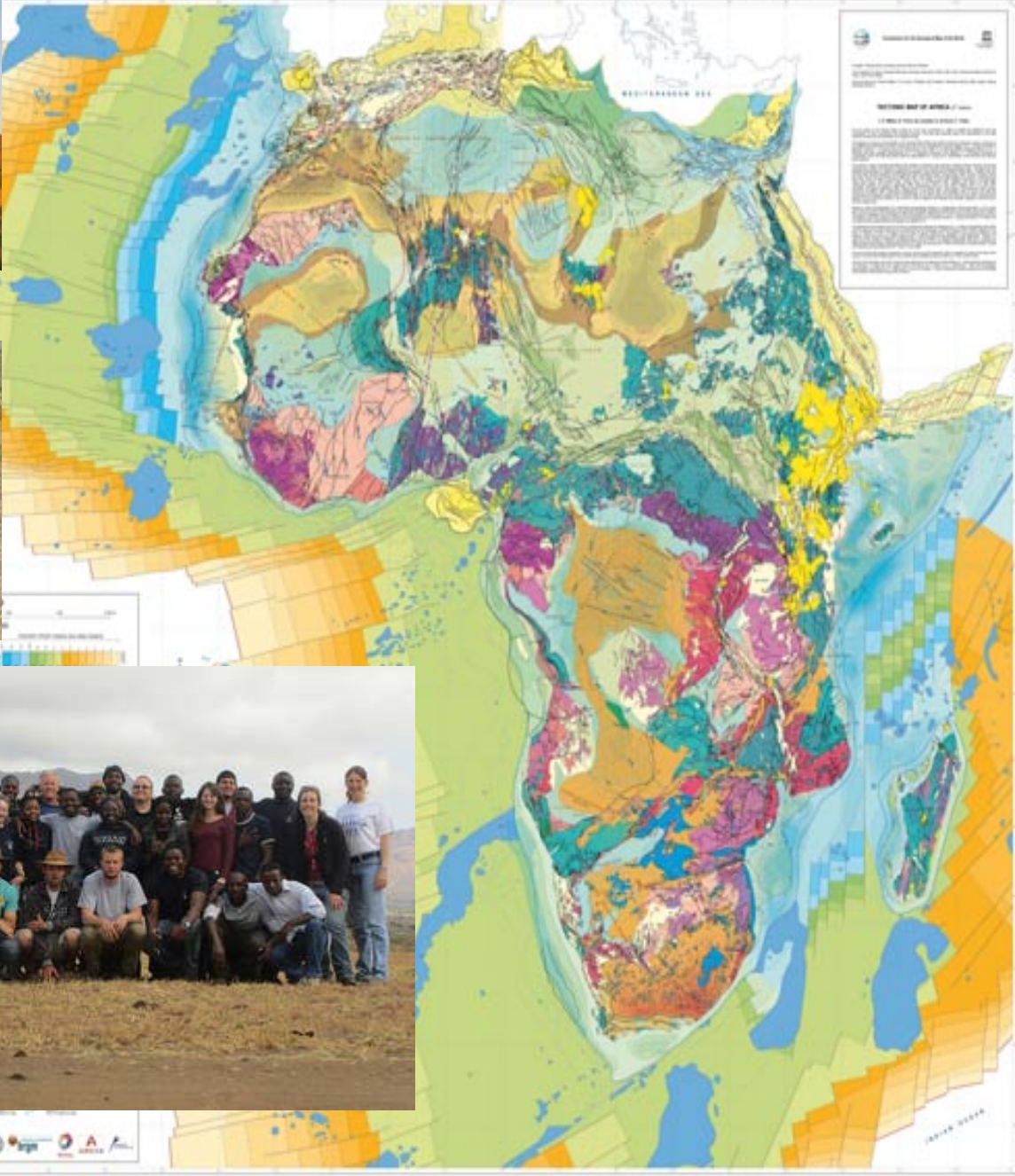




**Earth science
education initiative
in Africa.**

The way forward:
few priority actions to start

- 1. Strengthening Earth Science Infrastructures through Geological Field Mapping Training;**
- 2. Strengthening/ Introducing earth science courses in primary and secondary education;**
- 3. Strengthening Earth Science Education through Institutional Networking**





United Nations
Educational, Scientific and
Cultural Organization



**Earth science
education initiative
in Africa.**

Geological Field Mapping Training in Africa: Political foundation

"...much of Africa's mineral resources remain under-explored and under-exploited and geoscience knowledge is at a relatively too low level to attract exploration and investment"

(First African Union Conference of Ministers Responsible for Mineral Resources in October 2008)

"Africa is the world's top producer of numerous mineral commodities and has the world's greatest resources of many more, but most of Africa still lacks systematic geological mapping which could bring to light a much greater resource base" *(Africa Mining Vision prepared by the African Union in 2009)*



Geological Field Mapping Training in Africa

The project

1. Plan is to set up mobile geological field mapping school
2. Trainees would be young professionals from geological surveys, private sectors or early career lecturers from universities;
3. The initial set up costs and support in kind would be sought from global donors;
4. We hope the school will become progressively self-funded and evolve towards an African Centre of Excellence for Geological Mapping training;





United Nations
Educational, Scientific and
Cultural Organization



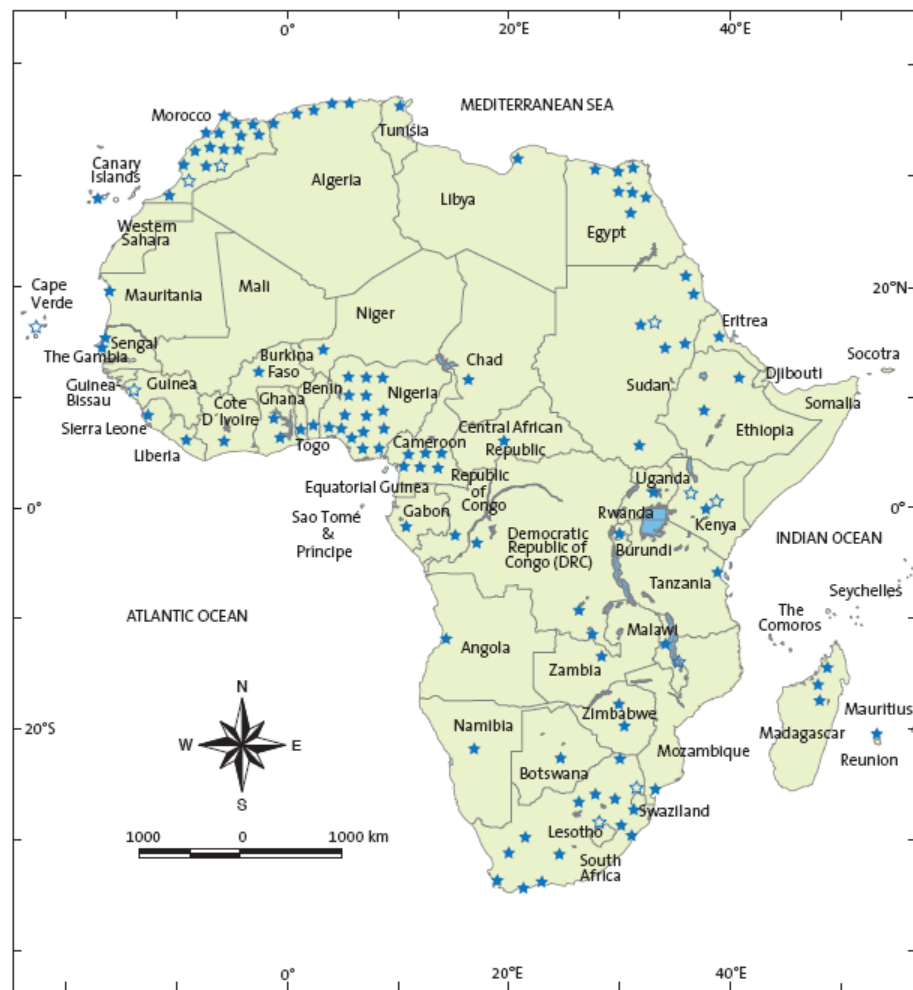
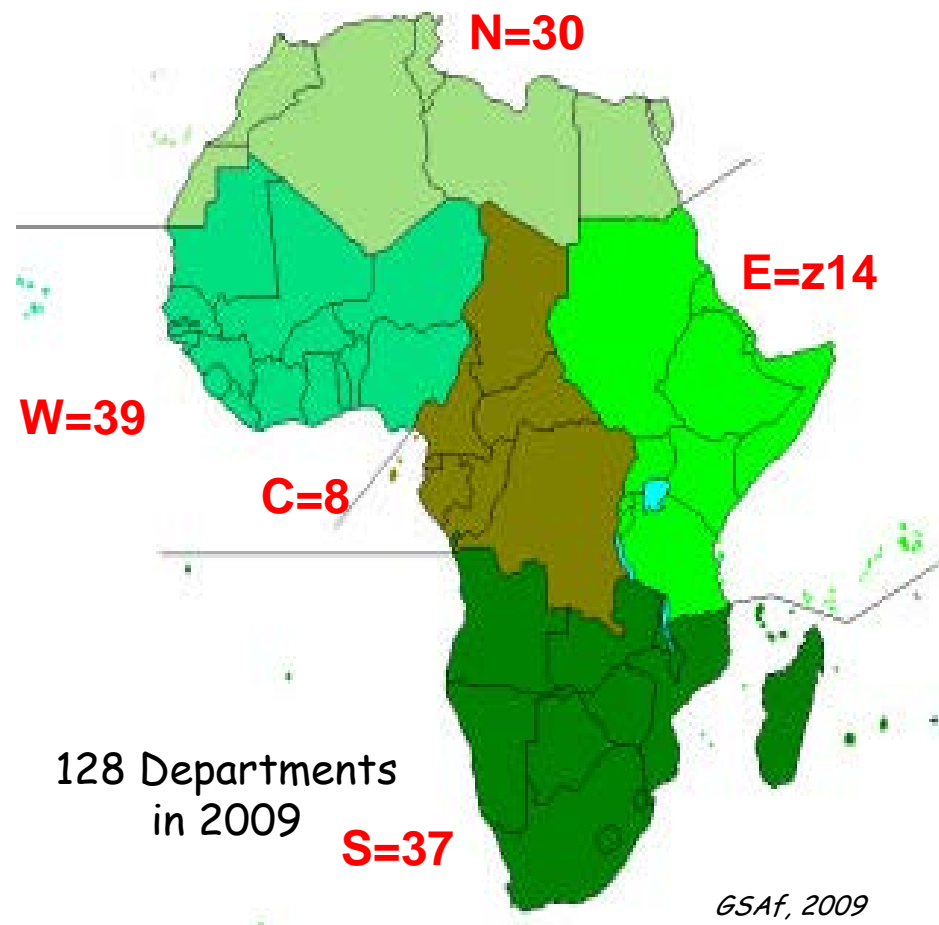
**Earth science
education initiative
in Africa.**

African Network of Earth Science Institutions (ANESI)

Why a network?

In 2009, Africa had 128 departments of earth sciences, although unevenly distributed throughout the continent

We are currently updating the mapping survey of institutions for their inclusion in an online database





**Earth science
education initiative
in Africa.**



United Nations
Educational, Scientific and
Cultural Organization

Organisation
des Nations Unies
pour l'éducation,
la science et la culture

African Network of Earth Science Institutions (ANESI)

Selected objectives

- Promote excellence in earth science education and research;
- Promote earth system science education;
- Promotion collaboration in training, research and capacity building;
- Maintain database of African earth science institutions and experts;
- Promote of gender equality access to earth science education;
- Improve participation in international research projects, particularly IGCP;
- Improve of connections between universities/research institutions and industry;

African Network of Earth Science Institutions (ANESI)



ANESI has been endorsed by the African Conference of Vice-Chancellors and Deans of Science, Engineering and Technology (COVIDSET-2011 in Johannesburg)



African Network of Earth Science Institutions



United Nations Educational, Scientific and Cultural Organization

- HOME
- ABOUT US
- PUBLICATIONS
- MEMBERSHIP
- INSTITUTIONS
- EXPERTS
- PARTNERS
- FORUM



Institutions
Click Here



Our Partners
Click Here



ANESI Forum
Click Here

Our Vision

ANESI concurs to the vision of the Earth Sciences Education Initiative in Africa to trigger the emergence of the new ...
[Read More ...](#)

Our Mission

ANESI works towards increasing the impact of Earth Sciences on the sustainable development of Africa through:

African Network of Earth Science Institutions

HOT NEWS

November/December 2011

GIRAF Geoscience Information in Africa. 2nd Workshop. [GIRAF](#)

Circular for the Colloquium " 23rd Colloquium of African Geology" (CAG23), Johannesburg, South Africa. [More](#)

MEMBERSHIP

- > ANESI Members are recruited from earth science department of African universities, earth sciences research institutions, African geological surveys and from earth science related industries



United Nations
Educational, Scientific and
Cultural Organization



Earth science education initiative in Africa.

Earth Science in Primary and Secondary Education

1. It is a well-established fact that in primary and secondary schools geology has not the same status as geography, biology, or physics;
2. In many African countries, earth sciences appear for the first time at the end of secondary school, if not only at university;
3. Awareness on earth-related environmental challenges starts at an early age through education;





United Nations
Educational, Scientific and
Cultural Organization



Earth science
education initiative
in Africa.

**“if all women had secondary education, there could be
1.8 million fewer under-5 deaths”**

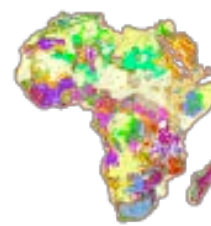
(UNESCO Global Monitoring Report on EFA, 2011)

1. **“Earth Sciences Education for All”
(especially children) can prevent
Africa from past mistakes of
environmental management in the
future.**
2. **Introducing earth sciences at
primary and secondary education is
an opportunity to forge future
generation of “Earth stewards”.**





United Nations
Educational, Scientific and
Cultural Organization



Earth science
education initiative
in Africa.

Earth Science courses in Primary and Secondary School

The project

1. Changing and adapting curricula is a long and complex process;
2. Convincing governments to adapt natural sciences curricula to give earth sciences a status that reflects their importance in the everyday life;
3. starting with a test country, and
4. convincing others to join;



UNICEF/Elias



UNESCO/Tole

An aerial photograph of a large, circular crater, likely a meteorite impact site, set in a vast, green, grassy landscape. The crater's rim is a reddish-brown color, and its interior is a mix of green and brown. A long, dark shadow is cast by the crater's rim onto the surrounding terrain. In the background, there are rolling hills and a clear blue sky.

Thank you!

Sarah Gaines, s.gaines@unesco.org