



The Cooperation with the Organization of African Geological Surveys and the role of Earth Observation

Rabat, Morocco, 17th October 2016

40 Years Listening to the Beat of the Earth

ICDTF - Executive Summary

EGS Task Force on International Cooperation and Development, chaired by Marek Graniczny (PGI - NRI) with two deputies Diana Ponce de Leon Gil (IGME – Spain) and Fabian Helms (BGR), is continuing its activities to intensify and improve international cooperation since 2011.

The first goal was the African continent, where cooperation was established with the Organization of African Geological Surveys (OAGS). This year, **another challenge appeared relating cooperation with geological surveys of Latin America** associated within the Organization of Ibero-American Geological and Mining Surveys (ASGMI).



ICDTF - Mission and vision

The mission of the ICDTF is to make of EGS the European centre of excellence for geological cooperation with European countries which are not EGS members as well as with countries and organisations in other continents.

The vision of the ICDTF is to increase the quality, efficiency and cost-effectiveness of the Geological Surveys of Europe science delivery and to capitalise on International Cooperation and Development (science) opportunities.

Due to the cross-cutting nature of its mandate, the ICDTF will cooperate closely with the **other EGS Expert Groups** when topics of respective competence are concerned.



STEPS LEADING TO THE CREATION OF THE PROJECT

AU Conference of Ministers Responsible for Mineral Resources Development - **Meeting of Senior Officials Addis Ababa, Ethiopia 12 December 2011**

A **stronger partnership on raw materials** between **EU** and **Africa** is now a necessity. This was the main result of the **High-Level Conference: EU-Africa Partnership on Raw Materials**, held in Brussels in 25 – 26 January 2012 by the European.

Mr. Demicheli pointed out the urgency “to boost social welfare and development and enhance environmental protection in Africa by **developing a geological knowledge base** across the continent.



STEPS LEADING TO THE CREATION OF THE PROJECT

A joint meeting of the **Mineral Resources (MREG)** and **Int. Cooperation Task Force (ITCF)** of **EGS** has taken place on 21.03.2012 in Brussels.



On September 10-11, 2012, the PGI-NRI hosted the EGS leaders and experts of the **EGS International Cooperation and Development Task Force (ICDTF)** and **Mineral Resources Expert Group (MREG)** who came to Warsaw to continue works on preparation of the **pilot Pan-African project**.



STEPS LEADING TO THE CREATION OF THE PROJECT

The **EGS – OAGS** workshop
“Enhancing Africa-Europe Geological Surveys Cooperation” was organized in Niamey, Niger, 11-12 December 2012.

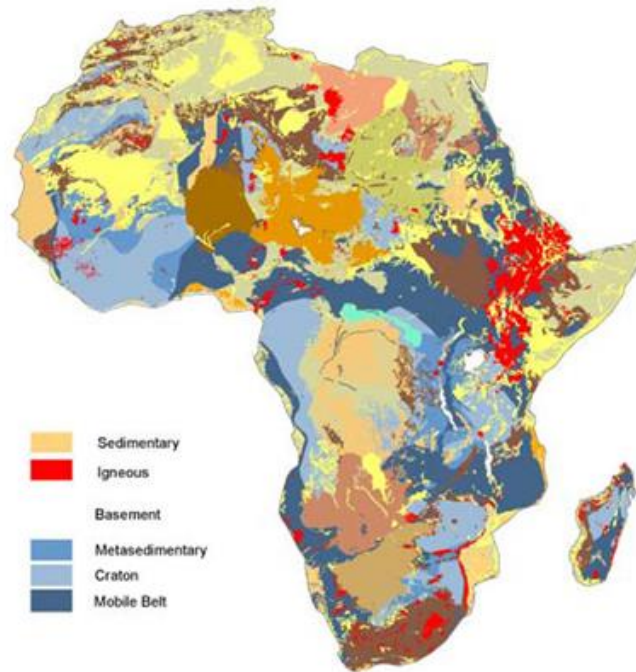
The document draft project proposal for “Geoscientific knowledge and skill at African Geological Surveys” was presented and discussed in details during the two days of the workshop.

The document had been prepared by 15 European experts from 12 geological Surveys for review by and discussion with the African experts.



OPENING OF THE STUDY

Feasibility Study “**Geoscientific knowledge and skills in African Geological Surveys**” has been signed by EC DG DEVCO and EGS authorities on July 19th 2013 (Contract 323-534).



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Boundaries of surficial geology of Africa, courtesy of the U.S. Geological Survey.



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OBJECTIVES OF THE STUDY

The specific objectives of the project are as follow:

- **Enhance capacity and role of African national geological surveys;**
- **Contribute to capacity building in assessing mineral resources by national geological surveys in Africa;**
- **Increase activity of national geological surveys in regional mapping and exploration to upgrade their geoscientific information base and mineral resources inventories;**
- **Strengthen the level of national geological surveys geological knowledge and skills through training;**



Activities and Leaders

Team Leader - **Luca Demicheli (EGS)**

AC 1 Coordination

Leaders - PGI – NRI, **President of OAGS – Namibia**

Deputies EGS Secretariat, **vice-Presidents Niger, Mozambik**



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Activities and Leaders

WP 2 Activities needed to strengthen the OAGS

Leaders - GEUS, **South Africa**

Deputies - EGS Secretariat, **Ivory Coast**



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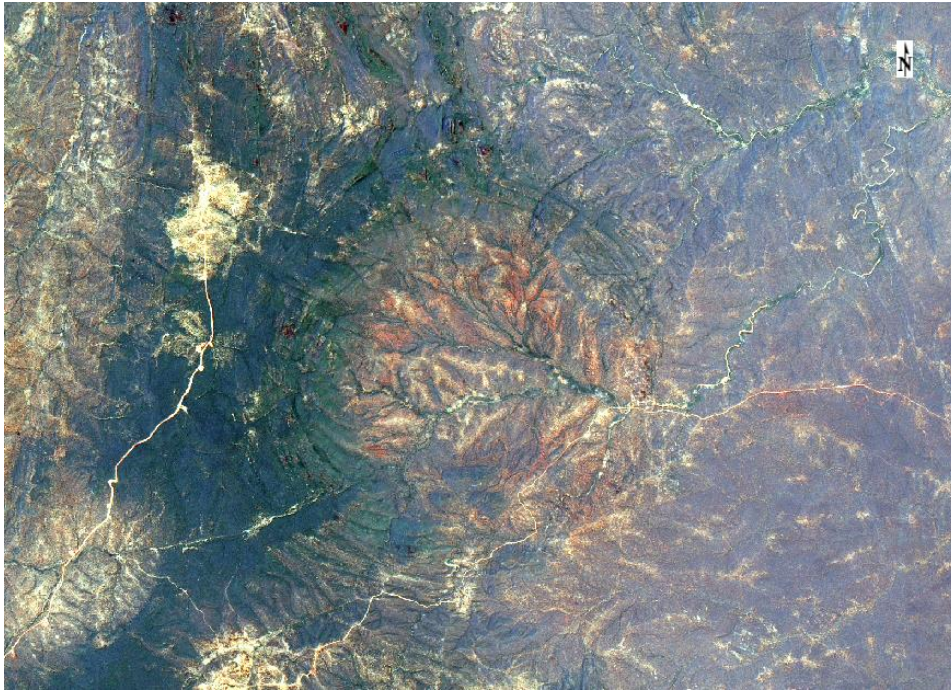


Activities and Leaders

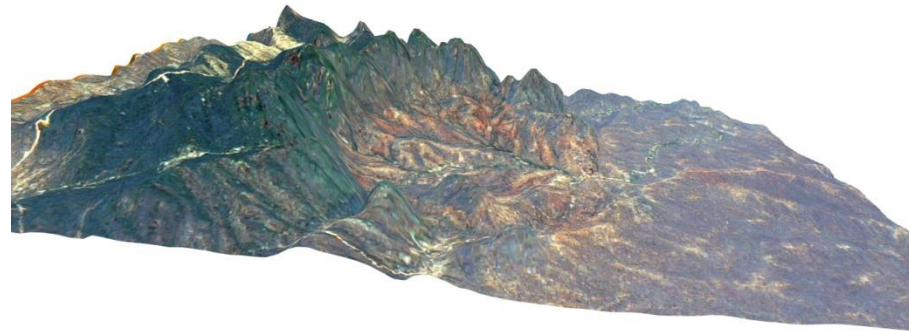
AC 3 Gap analysis of geoscientific mapping

Leaders - CGS, **Namibia**

Deputies - BRGM, **Senegal**



Meder ring structure - Ethiopia



Processed by Z. Kowalski – PGI-NRI



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Activities and Leaders

AC 4 Mineral resources assessment gap analysis

Leaders - GTK, Ghana

Deputies – GEUS, Geo-ZS, SGU, Nigeria, Ivory Coast, South Africa



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Activities and Leaders

AC 5 Geohazard mapping and monitoring and Geoheritage gap analysis

Leaders - LGT, **Algeria**

Deputies – IGME Spain, ISPRA, **Mozambique, South Africa**



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Activities and Leaders

AC 6 Capacity building and training concept

Geoscience information infrastructure and management

Leaders - ISPRA, **Niger**

Deputies - BRGM, CGS, **Botswana**



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Activities of the Study - Meetings

A successful **OAGS-EGS workshop** dedicated to this Study was held in Ghana on 25 September 2013. Participants in this meeting were 17 experts coming from **10**

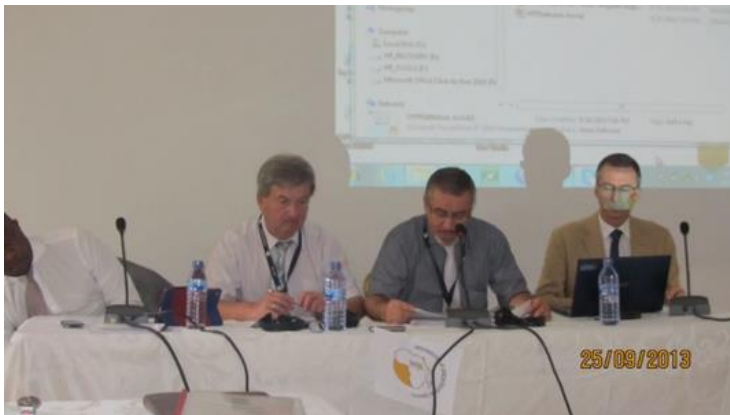
European geological surveys:

Czech Republic, Finland, France, Germany, Italy, Lithuania, Poland, Spain, Sweden, and United Kingdom

12 experts coming from **12 African geological surveys:**

Algeria, Botswana, Egypt, Ghana, Ivory Coast, Morocco, Mozambique, Namibia, Niger, Nigeria, Senegal and South Africa,

along with the **OAGS President** and the **EGS Secretary General**.

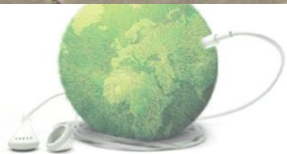


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Activities of the Study - Meetings

EGS – OAGS Information Session - Africa meets Europe: continental scale Geological Surveys cooperation going real - Dar es Salaam, Tanzania – 14th August, 2014 during **25 Colloquium of African Geology (CAG25)**. After presentation an open discussion took place on the involvement and role of non Geological Surveys stakeholders (*Chairs: Gabi Schneider and Luca Demicheli*). Over 70 participants took part in this meeting.



Activity of the Study - Meetings

Finalization of the feasibility study “**Geoscientific knowledge and skills in the African Geological Surveys**”.

- Continuation of preparation of the draft final report.
- Arrangement and organization of the project Final Workshop in Cape Town (South Africa).
- **EGS-OAGS Workshop – 8th-9th February 2015 Cape Town, South Africa**

The main aims of the Workshop were:

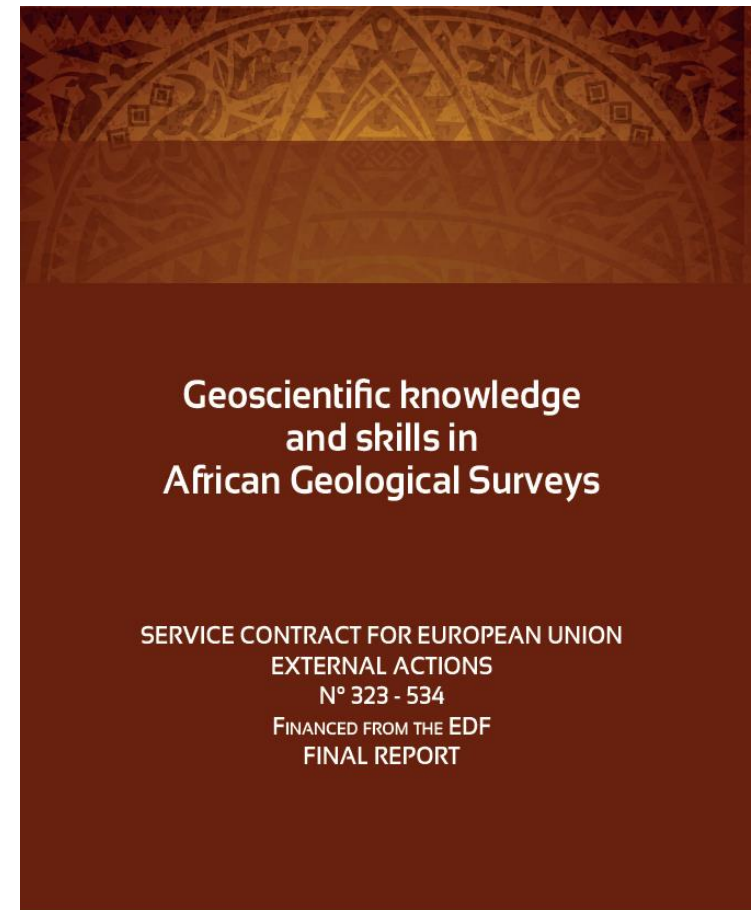
- collection of any further comments on the Report’s final draft;
- approval of the final draft by African partners;
- discussion about the future implementation of the project.



Activity report

Giving presentation *Enhancing geoscientific knowledge and skills in African Geological Surveys* by ICDTF Chairman, during the **EGS Director's Workshop - Geological infrastructures priorities in Africa and beyond (Brussels 25th March)**.

Submission the final report to DG DEVCO by EGS Secretariat.



Earth Observation data

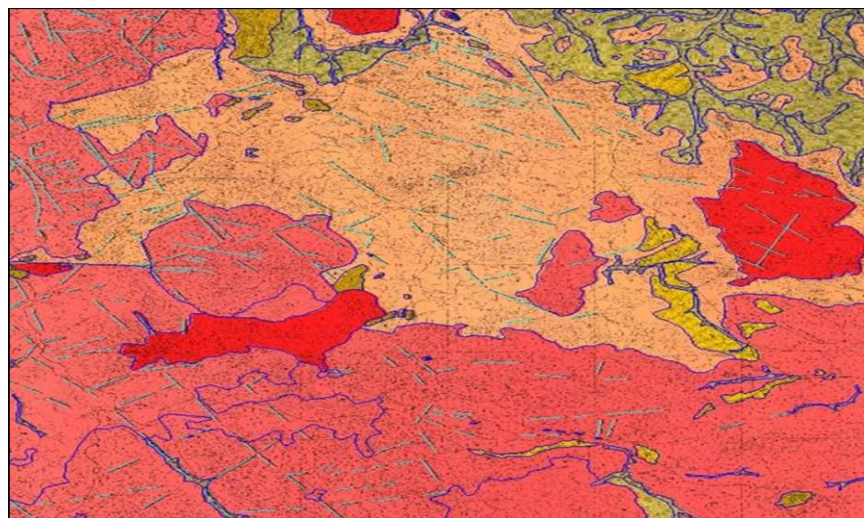
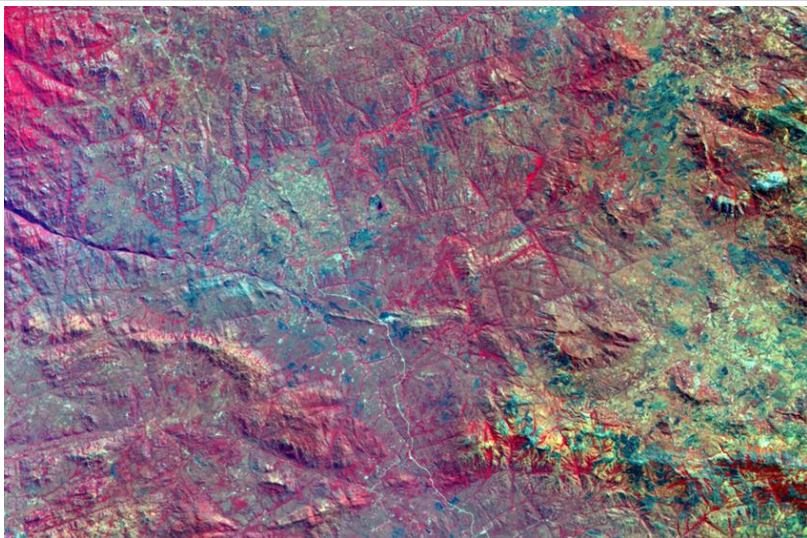
Remotely sensed data are absolutely necessary in Africa to apply and solve following issues:



- Geological mapping.
- Exploration of raw materials and groundwater
- Identification and monitoring of geohazards (natural and man made).
- Assessing the impact of mining activity on the surrounding environment.



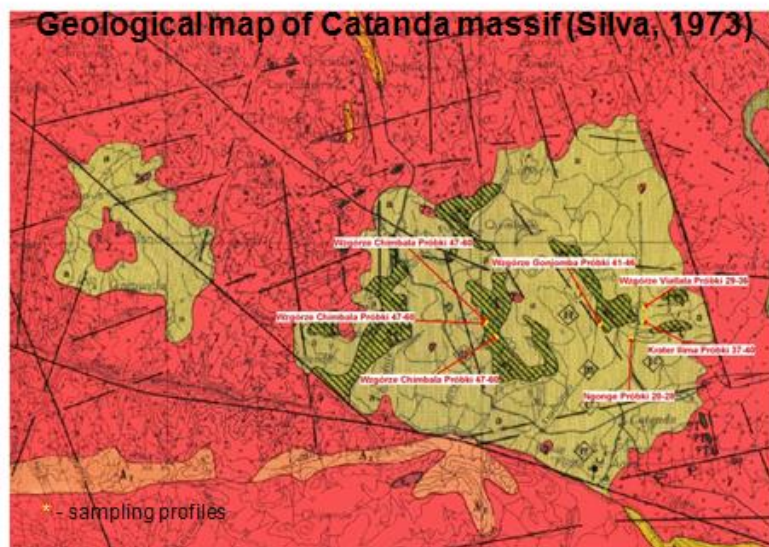
Geological mapping



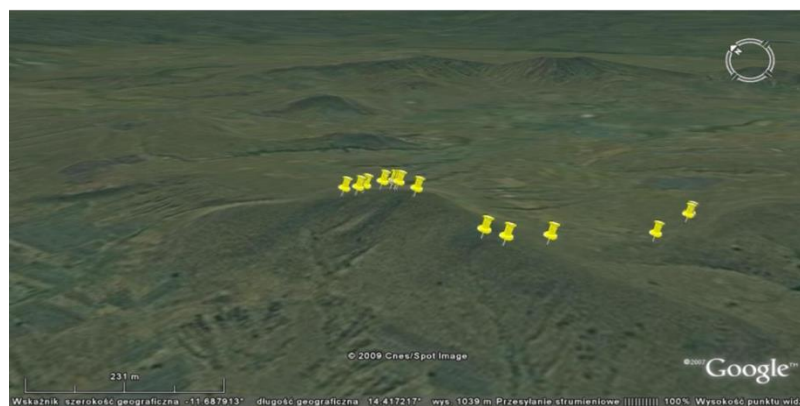
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Mineral and ground water exploration



Location of sampling points in profile



Content of REE (ppm) (n=43)

REE	Arytm. Mean	Geom. Mean	Min.	Max.
La	704	578	168	246
Ce	1370	1100	300	484
Pr	122	100	28	51
Nd	373	314	90	153
Eu	8.5	7.8	2.7	19.7
Sm	36	32.4	11.2	104
Gd	18.9	17.6	7.1	34
Tb	2.1	2.0	0.9	3.3
Dy	9.7	9.2	4.2	17.7
Ho	1.5	1.4	0.7	2.7
Er	5.7	3.5	1.7	6.5
Tm	0.44	0.42	0.21	0.8
Yb	2.16	2.04	0.61	4.6
Lu	0.34	0.32	0.16	0.6
Total REE	2600	2175	621	952



Natural geohazards

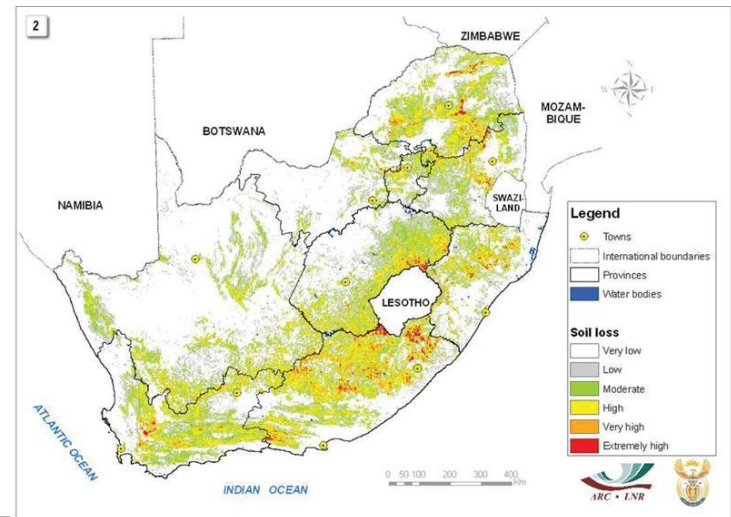
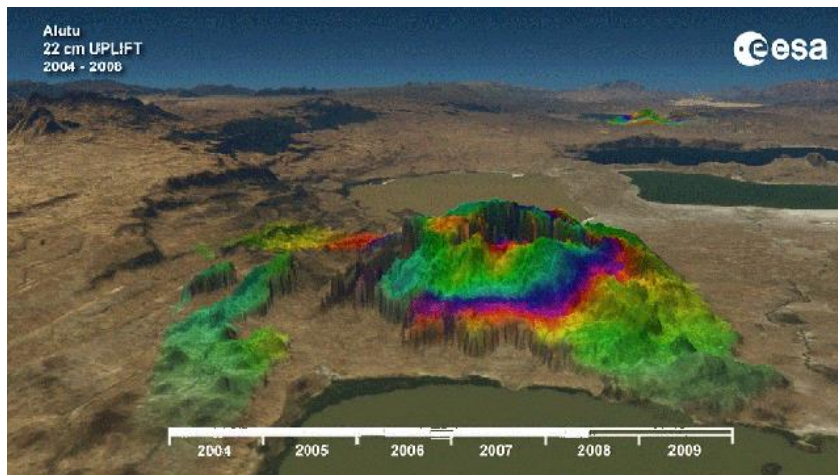
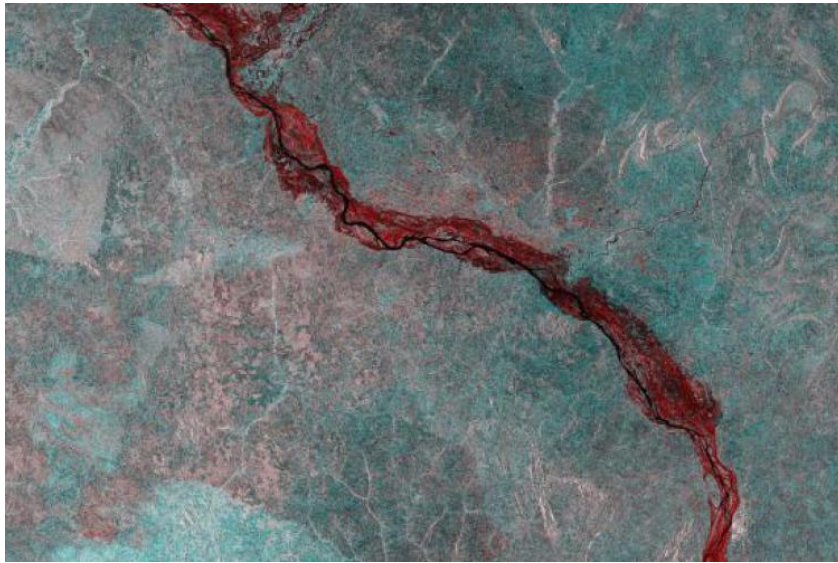
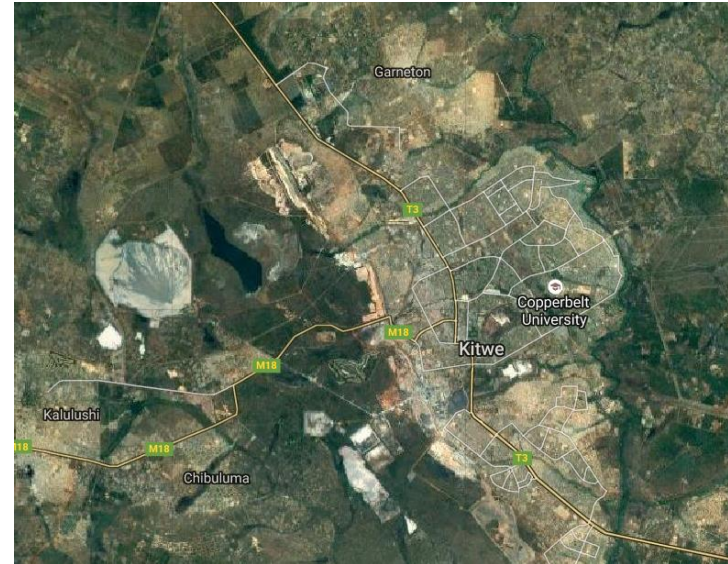


Figure 2: Distribution of sheet and rill erosion in South Africa.



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Impact of mining activity



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THANK you for your attention!