

EUROGEOSURVEYS

Geoscientific knowledge and skills in African Geological Surveys Activity 3. GAP analysis of geoscientific mapping Leader: Antonín Seifert (CGS) Deputy: Bohdan Kříbek (CGS)

40 Years Listening to the Beat of the Earth

ACTIVITY 3: OBJECTIVES

3.1. To analyze and assess the **present situation** in African Geological Surveys and similar institutions in Africa in geoscientific mapping and map production (human resources, field and laboratory instrumentation and procedures (analytical equipment, hardware, software).

3.2. To analyze and assess **the needs** of the OAGS member states in geoscientific mapping and setting the priorities for strengthening the mapping activities and the provision of geoscientific information

3.3. To evaluate the **possibilities of cooperation** between member states of the EuroGeoSurveys and OAGS in personnel support and/or in mapping projects in selected regions of Africa.



ACTIVITY 3: DESCRIPTION OF WORK

A.3.1. Questionnaire: Analysis and assessment of the present situation and needs of all African Geological Surveys and similar institutions in Africa for activities in geoscientific fieldwork and map production (human resources, field and laboratory instrumentation and procedures, hardware, software)

A.3.2. Questionnaire: The assessment of the possibilities to realize geoscientific mapping projects in selected regions of Africa and related training activities (in cooperation with Activity 6)





ACTIVITY 3: DESCRIPTION OF WORK

A 3.3. Evaluation of collected information to demostrate the present situation in African Geological Surveys

A 3.4. Evaluation of possibilities of member states of EuroGeoSurveys to strenghten the capacity of the OAGS members in geoscientific mapping and map production

A 3.5. Formulation of a concept note including recommendations for the strengthening of mapping activities and the provision of geoscientific information and geodata in Geological Surveys in Africa.





ACTIVITY 3: DESCRIPTION OF WORK

A 3.6. Presentation of the results of assessment and recommendations at the Project Workshop for comments, feedback discussion and upgrading with the OAGS members.

A 3.7. The dissemination of the results of Activity 3.







ACTIVITY 3: QUESTIONNAIRE

WORKPACKAGE 3: QUESTIONNAIRE QUESTIONNAIRE PART I. Present situation in African Geological Surveys

Please let us know the state-of-art in the geoscientific mapping of your country:

- Progress in geological mapping of your country (indicate scale of mapping)
- Availability and accessibility of geological maps in digital form
- Accessibility and availability of geodata related to individual map sheets
- Metallogenic maps (indicate scale of mapping, please)
- Geochemical exploration maps (indicate scale of mapping, please)
- •Software used for geoscientific data processing and visualization
- Others.....

ACTIVITY 3: QUESTIONNAIRE

QUESTIONNAIRE: Part II. GAP ANALYSIS AND SUBSEQUENT ASSESSMENT OF EXISTING SITUATION

How and by what the efficacy of geoscientific mapping in your country is restricted:

- By shortage of financial means and low linkage with other government institutions
- By the non-available geoscientific data
- By limited digital archive of information necessary for multi purpose interpretation
- By the lack of experienced specialists trained on the job in the field to form relevant mapping teams
- By insufficient training of your staff in remote-sensing mapping techniques
- By inadequate or non-functional laboratory instrumentation (for mineralogical, chemical and geochronological examinations)
- By non-existent or limited hardware and software to produce high quality geological maps at 1:100 000 scale (digital and printed)
- By other inconveniences

ACTIVITY 3: QUESTIONNAIRE

QUESTIONNAIRE PART III. Proposal for case study of the geoscientific mapping in your country (interstate-boundary projects are preferred)

Please specify:

Site/Region/Country(-ies) of the cooperation project: Example: The Copperbelt Region, Zambia, Democratic Republic of Congo)

□ Suggested scope of the project or comments:

Example: Geological mapping at a scale of 1:50 000 including the inventory of mineral deposits and occurrences

□ Highlights of the project:

Example: The assessment of structural, lithological and metallogenic evolution of the Copperbelt and the evaluation of mineral potential







Project realized in cooperation with:

Mauritania

Bureau des Mines et de la Géologie du Burkina (BUMIGEB) Centre de Recherches Géologiques et Minières - Niger Dept Mines & Geology - Togo Direction de la Geologie - Cote D'Ivoire Direction Nationale de la Géologie et des Mines – Mali Direccao Geral, Geología e Minas- Guinea Bissau Direction Nationale de la Geologie - Republique de Guinee Geological Survey - Sierra Leone Direction de la Geologie - Senegal Minerals Commission - Ghana Geological Survey Department - Ghana Ministry of Land, Mines and Energy - Liberia

Mali

EuroGeoSurveys - The Geological Surveys of Europe

Burkina Faso

Ghana

Guinea







Headlines of the project: To obtain a new integrated geomorphological, geological, structural and metallogenic framework and evolution of the Birimian crust of the Leo-Man Shield in West Africa. The results of the project would be delivered straight into the WAXI GIS, and would be returned to appropriate geological surveys.







Tectonic scenario for western Burkina Faso during the Eburnean orogenesis. The surface corresponds to the present-day erosional level.



Synthesis of metamorphic P-T conditions obtained in the north of Ghana.



Schematic diagram showing the different steps used for the 3D modelling of the Ashanti Belt



Revised geological map of the western Burkina Faso (Metelka et al., 2011).

(a)



Geomorphologic / regolith map of West Africa. The boundary between the northern and southern high-glacis relict landscape sub-provinces is transitional in nature. Its trace on the map is therefore not precise. (After D. Chardon, 2013)



(b)

Radiometric and (b) Th/K data covers of the Southwestern Burkina Faso target area. Field stations are represented by white dots. (After D. Chardon, 2013)



Landscape and mineralization model (After Kribek et al. 2013)

EuroGeoSurveys - The Geological Surveys of Europe

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The WAXI 2012 results Space Time Diagram





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The WAXI 2013 Results: Space Time Diagram







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ACTIVITY 3: DELIVERABLES

- D 3.1 An overview of existing geoscience maps and geodata in available in Africa as well as a description of the present situation in mapping activities in African countries by national Geological Surveys.
- D 3.2 Concept Note on strategies to strengthen the capacities of African Geological Surveys in the field of geoscientific mapping projects and the provision of geodata (production of maps and web services).
- D 3.3. Dissemination of the project results.





ACTIVITY 3: SCHEDULE AND MILESTONES

✓ October 15, 2013: Interception Report (Detailed work plan and a proposal for the structure of Activity 3)

 ✓ January 30, 2014: Interim Technical Report (Complete information on the progress achieved within Workpackage 3

✓ March 2014: Draft of the Final Report on Activity 3

✓ September 2014: Final Report on Activity 3





Activity 3. GAP analysis in geoscientific mapping





