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Remote sensing and geoscientific mapping training within the framework of the PanAfGeo project

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Geoscientific mapping is the basic method of collecting the geological data. Geoscientific mapping is a step by step process during which the geological map is compiled as a base for the government and public administration, in particular for making decisions in planning civil engineering, and formulating energy policy, sustainability in exploration of minerals- and water-resources, environmental protection and hazard management. For that reason, training in geoscientific mapping represents one of the principal keystones of the Euro-African PanAfGeo project focused on capacity building of African geological surveys staff-members. The scope of training in geoscientific mapping is to implement geological, GIS, remote sensing and organizational techniques from preparation phase to finalization of geological maps in the conditions of the African Geological Surveys. The training is planned in two courses: Introduction to remote sensing and Field training in geological mapping.

Identification of the suitable field polygon for training of geoscientific mapping is a crucial task for successful running of the course. It is a part of the preparation phase, when the team of instructors and course handbooks will be put together also. The well accessible training polygon in a politically calm area must provide a good logistic background (accommodation, lecture hall, catering etc.), be supported by available topographic maps 1:100,000 or greater scales, must offer various topography with common instructive rocky outcrops and diverse geology (at least four out of the following topics: sedimentary complexes, plutonic rocks, volcanic rocks, metamorphic rocks, regional- and small-scale ductile and brittle structures, Quaternary cover).

The course "Introduction to remote sensing" will be opened for 20–30 attendees from the African geological surveys. The course will introduce African geologists familiar with principles of remote sensing, available sources of remote sensing data and processing applied to optical satellite data to map geology/minerals as well as processing of radar data to detect deformations and vertical movements. Preparation of satellite data as a basis for field campaigns, interpretation of air-borne geophysical data and using of all types of remote sensing data for detecting important geological structures will be the key skills the attendees will adopt during the course.

The pivotal part of the training will consist of Field training in geological mapping carried out for 20 attendees under the supervision of nine instructors (European as well as local experts) during four-week long campaign in the training polygon. The participants will be trained in field techniques used during the geological mapping and collecting of geological data. Interpretation of petrological, geophysical, structural, stratigraphical and geochronological data related to compiling of geological maps will precede techniques of the data compilation and preparation of geological map and related explanatory text. The field training will comprise introductory talks and field excursion introducing attendees to the local geology, field mapping in small groups under the supervision of training experts, embedded specialized lectures, summarizing workshop and compilation of map. The embedded specialized lectures

will cover structural geology, petrology and geochemistry, stratigraphy, geochronology and applied geophysics.

The proposed schedule of training in geoscientific mapping should be repeated twice in each of partner country representing different sectors and language regions of Africa.

