

Master projects at the Research Group of Hydrogeology

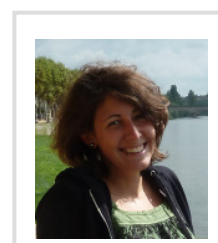
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Geochemical and hydrogeological characterization of the northern Kilombero catchment near Ifakara, Tanzania.

Keywords: Africa, geochemistry, hydrogeology, Ifakara, Tanzania, wetlands

As part of the project the wetland of the Kilombero floodplain in Tanzania should be examined in terms of hydrogeological conditions. In this master thesis the hydrogeological characterization is focused on the mountain side north of the town Ifakara as well as the alluvial fan beneath Ifakara which extends to the floodplain of the Kilombero River. A geochemical analysis should bring knowledge of possible groundwater flow paths and water-rock interaction (in collaboration with Tina Geißler). Furthermore, potential aquifers should be identified and analyzed for their physical properties and chemical composition.

During the hydrogeological mapping in May and June 2014 a sampling of the different rock types is carried out. Different mineral compositions are recorded, besides structural elements are determined. This includes fracture measurements like dip directions and opening widths of fractures. Based on that data aquifer properties, e.g. hydraulic conductivity, can be calculated. Interpolation between drilling logs allows a construction of sections. Because of the humid constitution in the working area saprolite as a weathering product can occur. These transformed metamorphic rocks are important aquifers. The data of the physical properties and chemical composition will be collated with the results of the master thesis from Tina Geißler. Her work focuses on water samples and their hydrochemical compositions. The comparison should provide a conclusion about the groundwater flow paths and the interaction between rocks and water.



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Work Package	A5 - Water and matter fluxes,
Countries of work	Tanzania
1 st Supervisor	Prof. Barbara Reichert
2 nd Supervisor	
Subject	Geosciences
Faculty	Faculty of mathematics and natural science
University	University of Bonn
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