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Active fault mapping of the Malawi territory in the framework of the GEMMAP project

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The "Geological Mapping and Mineral Assessment of Malawi" project (GEMMAP) is led by the BRGM, with international partners GTK (Geological Survey of Finland), and CGS (Geological Survey of South Africa). The client is the Government of Malawi through the Geological Survey Department (GSD).
In the framework of GEMMAP, the Geohazard module comprises mapping of flood risk areas, landslides and active or potentially active faults at 1: 250 000 scale over the entire territory of Malawi.
The applied methodology for mapping faults comprises four steps:
1) Compilation of spatial data (DTM, satellite imagery, geological maps, geophysical data), scientific publications and earthquake catalogue.
2) Analysis of the regional seismo-tectonic context and design of an interpreted map of active and potentially active faults. This is derived from the review of the compiled data in combination with the analysis of the spatial data by using GIS software.
3) Field work to verify/identify major active or potentially active faults.
4) Finalization of the active fault map at scale 1/250 000.
A first, provisional, map displays active or potentially active faults and the main geological characteristics. Several faults were identified in the northern half of the country and visited during a subsequent field trip, lasting three weeks. Several ruptures in Quaternary superficial deposits indicate recent activity of several faults located at the edge of Lake Malawi and confirm the results of the desktop study.
It is planned in 2019 (1) to analyse the active faults in the southern part of the country, and (2) revise the earthquake catalogue. The 1:250,000-scale seismo-tectonic map of Malawi will be finalized in 2020.