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THE GEOLOGIC HAZARDS IN THE LAKE KIVU BASIN AREA PRODUCTED BY EARTHQUAKES. Case of the February 3th 2008 earthquake.
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ABSTRACT

The eastern Democratic Republic of Congo is prone to earthquakes of magnitude greater than or equal to 4 on the Richter scale.
The western edge of Lake Kivu, the most populated part of the region is no exception to the solicitation of these earthquakes.

Since 1997, the western basin of Lake Kivu is experiencing intense seismicity, several earthquakes of great intensity, magnitude greater than or equal to 4 develop major destructive phenomena. These include the 1997 earthquake (M = 4.7) 2000 (M = 4.6 and 5.4), 2002 (M = 4.9, 5.2, 6.1 and 24 October 2002 M = 6.2) of February 3rd 2008 (M = 6).
Earthquakes of Kalehe on October 24th 2002 and Birava, February 3rd 2008 have resulted deformations of soil, human and material damage. This latest natural disaster ever known in the south-western basin of Lake Kivu has attracted our scientific curiosity we go there to inquire into its causes and consequences in this region.
The basin of Lake Kivu is affected by transform faults emerging (MUKONKI & CHOROWICZ, 1980, quoted by K.S.KAVOTHA & ali, 1990) that delimit the Rift were intersecting at the level of Lake Kivu.
We Consider the seismicity, volcanism and uplift of the basin of Lake Kivu as a sign of fracturing under way to delimit a plate tectonics formed (Wong and Von Herzen, 1974, quoted by KSKAVOTHA et al, 1990).

The physiography of Lake Kivu is dominated by the fault which borders the western shore and one which intersects the island of Idjwi. The telemetry data of Goma Volcano Observatory added to those of the seismographic station of Lwiro have always revealed a pattern of epicenters clearer in Lake Kivu.
In correlation with the faults of the region, earthquakes affect mainly the western edge of Lake Kivu and the island of Idjwi with increasing density from north to south (K.S.KAVOTHA et al, 1990).
The great earthquake of Lake Kivu basin on February 03rd 2008, of magnitude 6 on the Richter scale occurred at 07 hours 34 minutes 12 seconds GMT, about 20 km north of Bukavu, 80km south-west of Goma, between

02,314S and 028,896E, at a depth of 10km epicentral surface.
Three major aftershocks followed to this great earthquake and were recorded at the seismographic station of Lwiro and the Goma Volcano Observatory:
1. The first after shock at 10 hours 56minutes 10seconds AM GMT, of magnitude 5.0, located at 20km depth and oriented on the north-east of Bukavu and 80km depth on the west of Butare in Rwanda between 02.456 S and 029.039 E.
2. The second after shock at 11 hours 07 minutes AM GMT, of magnitude 4.7, located at 25km depth on the north-east of Bukavu and 75 km depth on the south-west of Goma, between 02.307S and 028.997E.
3. The third after shock at 11hours 37minutes 49secondes AM GMT, of magnitude 4.5, located at 40km depth on the west of Butare in Rwanda and 55km depth on the east of Bukavu between 02.525S and 029.363E (Lukaya N'yombo Fr,11 February 2008).
Other after shocks not indicated in this text was shacked the western of Lake Kivu basin.
This great earthquake and its first two aftershocks were located in the south western of Lake Kivu basin, in Ishungu and Birava region in territory of Kabare.
The damage is observed on a radius of approximately 20 km.

This earthquake has reactivated the faults along the western shore of the Lake Kivu, but also those of the Fomulac-Kakondo-Ishungu-Birava axis. Those in Bukavu town, the South and North direction have not escaped at this reactivation.

The movement of these faults has caused deformations in the surface soil and buildings erected on these flaws have suffered cracks and destruction.
We will present damages of this natural risk in our poster presentation.