

Paper Number: 4592

## THE PRODUCTION OF THE AFRICA SEISMOTECTONIC MAP AND DATABASE

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The seismotectonics of the African continent have been studied from many fronts. The seismicity and the tectonic characteristics of the continent are therefore well known and have been described in a number of publications. However, one of the most challenging problems is that most of these studies have been done on a country-by-country basis instead of following a unified continental approach. This has made the integration of multiple datasets difficult. Several of these projects have contributed a wealth of information to the production of the seismotectonic map of Africa. Such data will be very useful in conducting a realistic assessment of the seismic hazards of the continent.

For the scientific work, the continent was divided into six seismotectonic provinces. In the absence of a common database, the first objective was to establish a unified application database enabling the team to view the available data sources and to explore the spatial relationships between features.

The main focus of the project was the preparation, compilation and homogenisation of an Earthquake Catalogue for the continent, taking into account historical (pre-1900) and instrumental events (1900–2012). A detailed inventory of existing fault databases was also undertaken and updated including attributes such as the source, name, age and type of faulting.

Additional layers included the latest topographic data, downloaded from science institutions and selected features obtained from the Tectonic Map of Africa. All the information was gathered to refine the final product and to adapt it for deployment on the Web. Metadata are a very important component of the database and, thus, it was necessary to validate all new layers that had been acquired against the metadata before these could be loaded into the database.

A Web-based map application was utilised as a platform to assess the distribution and accuracy of the data collected. Initially, the application served as a preliminary step but, as work on the map progress, the usefulness of an online map portal became increasingly apparent.

The aim of this presentation will be to illustrate the scientific workflow that was followed to produce the Seismotectonic Map of Africa and to discuss the selection, interactions and interdependencies of the feature layers presented in the database.



