



## Geomagnetic field changes over southern Africa

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The geomagnetic field is subject to continuous change, distributed unevenly over the globe. On average, the global field is currently declining and a particularly strong decrease of field intensity is observed over the southern Atlantic and southern African regions. In this area, known as the South Atlantic Anomaly, the field already is significantly weaker than the average dipole-dominated field at comparable latitudes. Investigations of global geomagnetic field models have revealed that a growing patch of reversed magnetic flux with respect to the dominating dipole flux direction at the core-mantle boundary under southern Africa is causing this striking field behaviour. With only three geomagnetic observatories on the southern African subcontinent and none in the southern Atlantic, monitoring these changes from the ground is poor. Within the Inkaba ye Africa project we were able to increase the number of geomagnetic repeat stations in South Africa, Namibia and Botswana from 10 to 40 and improve the survey method, to obtain more detailed measurements of secular variation. Two surveys were carried out in fall 2005 and 2006. Here, we describe the improvements to the surveys and present first results of modelling the southern African secular variation.