



Originally published as:

Horsfield, B., de Wit, M. (2007): Inkaba yeAfrica
Jahrestagung der Afrikagruppe deutscher Geowissenschaftler (Potsdam 2007), 17 p.

Inkaba yeAfrica

Brian Horsfield & Maarten de Wit

GeoForschungsZentrum Potsdam, Am Telegraphenberg, D-14473 Potsdam, Germany; Email: horsf@gfz-potsdam.de

Inkaba is a Xhosa word encapsulating a sense of total interconnectivity. Literally it means navel, the central point: a point from which all energy, material and knowledge emerges and is recycled. Uniting this with **ye Africa** creates the broader meaning **Earth Systems (Science) of Africa**.

Inkaba yeAfrica is a major scientific undertaking of the German and South African earth science communities. Conceptually, teams of scientists are surveying a cone-shaped sector of the Earth from its core to space, enclosing South Africa and the Southern Oceans at its solid surface, and tracking the history of its components for at least 200 million years into the past. South Africa was chosen as research site since it is, according to the research team, quite simply the best natural laboratory in the world. Its geology retains the longest best-preserved record of tectonic movements, volcanic events, natural resource emplacement, geomagnetic record, and climatic change extending back more than 3000 million years. Southern Africa is also at the current focus of dramatic changes in the Earth's magnetic field and is the cradle of human culture.

The initiative has run via three main research topics that are united by a common goal of capacity building:

- Heart of Africa has studied energy transfer from core to space to forecast the growth of the South Atlantic magnetic hole and its effects; gained better insight into the magnetic reversal process; investigated the feedback mechanisms between hot upwelling mantle beneath southern Africa and its present surface elevation;
- Margins of Africa has studied the causes, mechanisms and consequences of continental break-up, including the changing ocean basins that separate its fragments.
- Living Africa has studied oceans, resources, climate and biodiversity between and around the margins of southern Africa, South America and Antarctica.

The initiative has succeeded in attracting a new generation of South African postgraduates and postdoctoral researchers with multicultural backgrounds to explore ways of integrating frontier geosciences with the economic and social needs of their developing nation.

Phase 1 is almost completed, and will be celebrated by publishing a special volume of the South African Journal of Geology. Phase 2 begins in 2008.