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The Agulhas Karoo Geoscience Transect of Inkaba ye Africa – an overview.

Oliver Ritter*, Karsten Gohl**, Ute Weckmann*,*****, Nicole Parsiegla**, Trond Ryberg*, Jacek Stankiewicz*, A.S. Lindeque*,***,****, Gabriele Uenzelmann-Neben*, Maarten de Wit*,***, Albrecht Schulze* & Michael Weber*,*****

*GeoForschungsZentrum Potsdam, Am Telegraphenberg, D-14473 Potsdam, Germany;
Email: *oritter@gfz-potsdam.de*
** Alfred-Wegener-Institut für Polar- und Meeresforschung, Germany
*** AEON Africa Earth Observatory Network Africa, UCT Cape Town, South Africa
**** Council for Geoscience, Western Cape, South Africa
***** Universität Potsdam, Germany

Earth systems interact at different scales, rates and ways, whose complexity cannot be understood without integrated and multi-disciplinary group efforts. Inkaba yeAfrica is a South African German research initiative designed to investigate interacting systems in a cone-shaped sector of the Earth from the core to space. Southern Africa possesses a number of geologic superlatives, such as a uniquely preserved, 3500 million-year record of continental amalgamation and breakup, making it an ideal target for earth system studies. As a part of Inkaba ye Africa, the Margins of Africa programme examines the causes, mechanisms and consequences of continental collision and break-up. Geophysical, geological, and geochemical data are collected in order to build on a model of the evolution and crustal accretion as well as the continental break-up of Southern Africa. Here we report on the Agulhas Karoo Geoscience Transect: A land sea deep crustal seismic, magnetotelluric and petrological transect across the Agulhas Plateau, the Agulhas Fracture Zone, the Agulhas Bank, the Cape Fold Belt, and into the Karoo Province. Main objectives of the Aghulas-Karoo transect are to address Mesoproterozoic accretion processes along the southern margin of the Kaapvaal Craton, the extent of Pan-African inliers in the Cape Fold Belt, the extent and formation of the Cape Fold Belt, the sources for the Beattie Magnetic Anomaly and the Southern Cape Conductivity Belt, structure and evolution of th! e Karoo basin, the continental and/or oceanic origin of the Agulhas Plateau, the formation of the Agulhas Fracture Zone and its consequences for basin formation and uplift processes.