



# PROTEROZOIC CRUSTAL & METALLOGENIC EVOLUTION

## ABSTRACTS

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# LANDSAT INTERPRETATION OF NEOPROTEROZOIC CRUSTAL FEATURES ON THE WESTERN SEABOARD OF NAMIBIA AND SOUTH AFRICA

P.G. GRESSE<sup>1</sup>, K.H. HOFFMANN<sup>2</sup>, G.R. SADOWSKI<sup>3</sup>, R.F. CESAR<sup>3</sup>,  
R. MACHADO<sup>3</sup>, M. SULTAN<sup>4</sup> AND R. UNRUG<sup>5</sup>

<sup>1</sup> Geological Survey of South Africa, P O Box 572, Bellville 7535, South Africa; <sup>2</sup> Geological Survey of Namibia, P O Box 2168, Windhoek, Namibia; <sup>3</sup> Instituto de Geociencias, Universidade de Sao Paulo, CP 20899, 01498 Sao Paulo SP, Brasil; <sup>4</sup> Dept. of Earth and Planetary Sciences, Washington University, P O Box 1169, St Louis, Missouri 63130, USA; <sup>5</sup> Dept. of Geological Sciences, Wright State University, Dayton, Ohio 45435, USA

Digital mosaics of Landsat multispectral scanner data covering the Atlantic seaboard of Namibia, South Africa, Uruguay and southern Brasil are being interpreted to cross-correlate neoproterozoic tectonic features of Gondwana. This poster presents the preliminary interpretation of the African part of the project and shows all major structural units, intrusions and shear zones abutting the southwestern African coastline.

The Damara Province is composed of the northern Kaoko Belt, the central Damara Belt and the southern Gariep Belt. The Kaoko Belt consists of the Purros, Hoanib and Ugab terranes. Large scale sinistral displacement occur along terrane boundaries such as the Purros lineament whilst easterly thrusting onto the northern foreland deposits covering the edge of the Kongo Craton is also in evidence.

The Damara Belt is composed of the Outjo, Swakop, Khomas and Hakos-Auas terranes. The northern Outjo and southern Hakos-Auas terranes have been thrust onto the northern and southern forelands respectively. These, and other terranes are bordered by and include major NE - SW trending lineaments such as the Autseib Fault (Outjo - Swakop terrane boundary), the Omaruru lineament (Swakop terrane), the sinistral Okahandja (-Mwembeshi) lineament (Swakop - Khomas terrane boundary), the Matchless Amphibolite Member (Khomas terrane), the Schlesien line and the Areb Mylonite that represent important crustal scale features intersecting the edge of the present continent. They relate to major metamorphic trends and intrusions such as the 350 km long Donkerhuk Granite Batholith (Khomas terrane), the continuation of which should be reflected in the opposing orogenic belts in South America.

The Gariep Belt contains the eastern Port Nolloth Zone, thrust onto the Kalahari Craton and the composite western Marmora terrane. Important relevant features here are the dextral Kuckuas - Tantalite Valley shear zone, the sinistral and southeast verging Schakalsberge thrust (Port Nolloth - Marmora terrane boundary) and the northeast trending Kuboos - Bremen line of intrusions.

By using fixed points on younger features such as the Torres syncline in Brasil and the Entendeka Plateau in Namibia, structures related to Gondwana assembly are aligned across the Atlantic in an attempt to explain the obvious mismatch obtained by simply reassembling the two continents according to the best fit.