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Interannual rainfall variability over the Cape south coast of South Africa linked to cut-off low associated rainfall

Christien J. Engelbrecht*¹ and Willem A. Landman²

¹ Agricultural Research Council, Institute for Soil, Climate and Water, Pretoria, South Africa, engelbrecht@arc.agric.za

² Climate Studies, Modelling and Environmental Health, CSIR, Pretoria, South Africa, walandman@csir.co.za

Abstract

The influence of cut-off low (COL) associated rainfall on interannual rainfall variability over the Cape south coast region of South Africa for the period 1979-2011 is investigated. COLs are objectively identified and tracked on daily average 500 hPa geopotential height- and temperature fields. Daily station rainfall data over the Cape south coast are used to identify rainfall producing COLs. A positive statistical significant rank correlation is observed between COL associated annual rainfall totals and all rainfall annual totals, indicating that COLs are a source of interannual rainfall variability. The relationship is also valid for autumn, winter and spring.