Classification of major circulation features influencing Southern African climate and their likely response to global warming

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The CORDEX-Africa analysis initiative was developed to investigate the multi-model ensemble of regionally downscaled data for the African continent. The downscaled data is subjected to classification techniques to assess the ability of each model to capture the major circulation patterns over Southern Africa. The performance analysis is done both statistically and qualitatively by comparing each model with observations over the same period. Further analysis is done to assess these patterns' dynamics and how they influence the intensity and location of high frequency convection. The high skilled models are then used to investigate the changes in the dynamical structures of the circulation patterns in a future warmer climate and how they will affect intensity and location of convection and near-surface temperature in the region.