



Analysis of temporal and spatial variations in water storage from gravimetric and hydrological observations in Sutherland, South Africa

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Spatial and temporal variations in water storage can be attributed to the heterogeneous nature of the subsurface. In this paper, the properties of soil and fractured rock aquifers are examined for the example of the South African Gravimetric Observation Station (SAGOS) in Sutherland. Also, aspects of groundwater recharge and their implications for gravimetric observations are reviewed. First results obtained from a hydro-meteorological monitoring system that was installed about one and a half years ago in Sutherland, measuring climate variables, soil moisture and groundwater levels, are evaluated. The results will aid in the development of a local 3-D subsurface model and in interpreting the gravity residuals of the superconducting gravimeter in Sutherland.