

Water Resource Management: Research project portfolio for 2007/08

| THRUST 1: WATER RESOURCE ASSESSMENT AND DEVELOPMENT | | |
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| Title (New projects indicated by *) | Contractor | Term |
| Programme 1: Catchment data and information systems | | |
| Quantification of the groundwater contribution to base flow | Parsons and Associates | 1/4/03 – 31/3/08 |
| Refining tools for evaporation monitoring in support of water resource management | CSIR | 01/04/05 – 31/03/08 |
| Remote sensing as a tool to determine the legal compliance of surface and groundwater users in a catchments | Council for Geoscience | 01/04/06 – 31/03/09 |
| *A methodology for near-real time spatial estimation of evaporation | CSIR | 1/04/07 - 31/3/08 |
| *The identification and delineation of high-yielding well-field areas in Karoo aquifers as future water supply options to local authorities. | Groundwater Africa | 01/04/07-31/3/11 |
| Programme 2: Surface water / groundwater hydrology | | |
| Flow conceptualisation and storage determination in the Table Mountain Group (TMG) aquifer systems | UWC | 01/04/03 – 31/03/08 |
| Protocol for assessing the sustainability of springs | Maluti Water | 01/04/04 – 31/03/08 |
| The water resources of South Africa, 2005 study (WR2005) | SRK | 01/04/04 – 31/03/08 extended |
| Flow conceptualisation, recharge and storability determination in Karoo aquifers | SRK | 01/04/05 – 31/03/09 |
| The use of ²²² Rn as a hydrological tracer in natural and polluted environment | CSIR | 01/04/06 – 31/03/09 |
| Basement aquifers in support of rural communities in Limpopo, North-West and Mpumalanga Provinces (with special emphasis on transboundary aquifer systems) | UP | 01/04/06 – 31/03/10 |
| Towards improved estimates in water resource assessments using hyper-spectral imagery to classify and map land-cover classes in Southern Africa | CSIR | 01/04/06 - 31/03/08 |
| *Hydro-pedological interpretation of the soils of selected catchments with the aim of improving efficiency of hydrological models | UFS | 1/4/07 – 31/ 3/10 |
| *Influence of catchment development on peak urban runoff | UP | 1/4/07 – 31/3/10 |
| *Land-Water Linkages: Agent-Based Modelling of Land Use Change and Its Impact on Water Resources in the Modder River Basin | Central University of Technology, Free State | 1/1/07 – 31/12/09 |
| *Measurement of the bulk flow and transport characteristics of selected fractured rock aquifer systems in South Africa | UFS | 1/4/07-31/3/11 |
| *Field investigations to study the fate and transport of light non-aqueous phase liquids (LNAPLs) in groundwater | UFS | 1/4/07 – 31/3/11 |
| Programme 3: Water resource planning | | |
| Synthesis and encapsulation of hydrological research findings into a DSS for application at co-operational/planning level | UKZN | 01/04/04 – 31/03/08 |
| *National water resource planning for operational needs: an update of applied approaches (Phase 1) | Clear Pure Water cc | 01/04/07 – 31/03/10 |
| Programme 4: Water resource development | | |
| Review and update of the SANCOLD Guidelines for the Design of Freeboard of Dams(NS) | US | 1/4/07 – 31/3/10 |
| The development and calibration of South Africa's National Standards for Water Retaining Structures (S) | US | 1/4/07 – 31/3/10 |
| Programme 5: Climate change and hydroclimatic variability | | |
| Hydro-climatic variation over Southern Africa at intra-annual and inter-annual time scales, with special reference to the role of the oceans | UCT | 01/04/03 – 31/06/07 |
| Model output statistics applied to multimodel ensemble long-range forecasts over South Africa | SA Weather Service | 01/04/04 – 31/03/08 |
| Understanding and predicting hydro-climatic variability | UCT | 01/04/05 – 31/03/08 |

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| The role of antecedent conditions in determining rainfall characteristics during the early part of the rainfall season | UCT | 01/04/06 – 31/03/09 |
| *Multidisciplinary analysis of hydro-climatic variability at the catchment scale | UCT | 01/04/07 – 31/3/10 |
| Programme 6: Water resource quality management | | |
| GIS based assessment of non-point source pollution in Kuils-Eerste River catchments, Cape Town. | UWC | 01/04/06 – 31/03/09 |
| An investigation into the effects of atmospheric pollutants on surface water quality in the eastern regions of South Africa | UKZN | 01/04/06 – 31/03/08 |
| *Water quality monitoring data and target users: Maximising value | CSIR | 1/04/07 – 31/08/08 |