

Gaining Knowledge from Open Water

The Water Research Commission is funding a project to find improved ways of estimating evaporation, which remains one of the most challenging components of the hydrological cycle to quantify. Earlier this year the research project team

undertook a field campaign to the Midmar Dam, in KwaZulu-Natal, where evaporation of an open water surface was estimated using a range of techniques. These included the open path in situ flux eddy covariance technique, the surface renewal technique, the

eddy covariance technique based on the energy balance, surface layer scintillometry, and large aperture scintillometry, among others. Sensors for energy balance measurements and thermocouples for the surface renewal techniques were also used.



Top left: The research team, comprising members from the CSIR, University of KwaZulu-Natal, and the University of the Free State, along with the project reference group, arrive at Midmar Dam.

Top right: Prof Michael Savage of the University of KwaZulu-Natal explains the sensible and latent heat flux measurements using scintillometry.

Left: The battery-powered evaporation monitoring platform in Midmar Dam.