



The Krycklan Catchment Study, Sweden: A field based experimental platform for linking small-scale process understanding to landscape patterns

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The Krycklan Catchment Study (KCS) (<http://ccrew.sek.slu.se/krycklan>), is a multi-scale experimental catchment located in the boreal region of northern Sweden. The catchment is extensively instrumented for hydrological and biogeochemical research, including 15 permanent gauging stations, ranging from 3 ha to 6700 ha in size, intensively sampled and continuously monitored to quantify temporal and spatial variations in water chemistry and discharge. An additional 90 locations are sampled occasionally for water chemistry at different runoff stages. The multi-investigator KCS has been developed to provide a direct insight into the governing hydrological and biogeochemical processes at a range of catchment scales and consists at present of over 30 separate projects. Its location within an established Experimental Forest provides a comprehensive instrumental infrastructure, long-term climate monitoring facilities and a small research catchment where process-based hillslope, hydrological and biogeochemical research has been conducted for three decades. Recently two new major investments are being implemented. The first includes a *Riparian Observatory* with over 200 soil lysimeters in the riparian zone. The second investment is the use of laser-scanning (LIDAR) which makes KCS one of the first large-scale research catchments where high-resolution elevation and ground cover data are available for hydrological

and water quality modeling.