WATER SUPPLY PLANNING AND SIMULATION SOFTWARE PACKAGE - REALM

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REALM (REsource ALlocation Model) is a generalised computer simulation package that models harvesting and bulk distribution of water resources within a water supply system. A wide range of operating rules can be modelled either directly or indirectly by exploiting the attributes of node and carrier types that are used to configure the system. It uses a fast network linear programming algorithm to optimise the water allocation within the network during each simulation time step, in accordance with user-defined operating rules. REALM has strong water allocation capabilities but with limited water quality features. Nevertheless, these water quality-modelling capabilities are sufficient to model the water quality issues experienced in most urban water supply and irrigation systems. REALM has been developed and enhanced in response to user requirements and feedback from the users, and therefore has developed into a comprehensive tool for water supply planning and management. It has been used to model the planning and management of sustainable water systems, and environmental flow requirements. This paper describes the main features of REALM so that the potential users will have an appreciation of its capabilities. It also describes a case study dealing with main features.