

Yuvacik Dam: Improvements to dam operation utilizing an integrated atmospheric-hydrological model

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SYNOPSIS. The paper describes the methodology employed to control water levels within Yuvacık Dam near Izmit, Turkey. It also provides details of a current study, results of which are expected to improve the operational control of this water supply and flood retention dam. The study includes the application of a hydrological model coupled with atmospheric forecast data; the project is currently active and being carried out by Thames Water International in conjunction with Middle East Technical University and Anadolu University. The study proposes to use of semi-distributed hydrologic modelling coupled with numerical weather prediction and GIS technology. The predicted precipitation and temperature values obtained by the numerical weather prediction model will be used as input to the hydrological model for near-real time runoff estimation to the Yuvacık dam reservoir for better and efficient operation.