

The Hydrology of the Burren, County Clare

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Abstract

The Burren plateau of northwest Co. Clare is extensively karstified, surface water being confined to short reaches of ephemeral streams, seasonal turloughs and drainage from adjacent non-carbonate rocks. Annual precipitation is c. 1500mm of which c.980mm is not evapotranspired. Recharge is rapid, either via concentrated inputs from sinking streams at the boundary between Namurian and Viséan rocks or via diffuse inputs over the limestone plateau. The limestone aquifer is characterised by low storage and rapid transmission of water. Discharge at the periphery is via a few large springs - one set of which in the valley of the upper River Fergus drains more than a third of the area. There are also important submarine springs draining the northern and western flanks of the Burren. The hydrogeomorphological history of the Burren is complicated, encompassing the decay of a surface fluvial network and the effect of changes in base level. Problems of water supply and in the maintenance of high standards of water quality are current and are likely to increase in the near future.