

Hydrogeology of lowland karst in Ireland

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Quarterly Journal of Engineering Geology and Hydrogeology, February 2008, v. 41, pp. 61-72.

<http://qjgeh.lyellcollection.org/content/41/1/61.abstract?sid=7e7d7f5f-a1ec-478f-b0b4-0efe016118b7>

Abstract

Almost a half of the Republic of Ireland is underlain by Carboniferous limestone, most of which is sufficiently pure to be karstified. Upland outcrops of limestone are largely confined to plateaux in the west and NW such as the Burren but the great majority of the limestone underlies the undulating lowland of central Ireland, which only locally exceeds 100 m in elevation. The lowland limestones are the principal source of groundwater in Ireland and also coincide with the most economically developed and intensively farmed areas, unlike the situation in Britain, where most karst limestone areas are relatively peripheral uplands. Such limited hydrogeological investigations as have been undertaken of the lowland limestones of Ireland suggest that karstic flow systems predominate, that they are intimately related to surface drainage systems and that the groundwater and associated karst features are often highly vulnerable to anthropogenic influences.