

# The influence of fractures on topography in the Burren, Co. Clare.

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<http://www.jstor.org/discover/10.2307/30002290?uid=3738232&uid=2134&uid=2&uid=70&uid=4&sid=21102495928161>

## Abstract

The hypothesis that fractures, and particularly fracture spacing, control topographic elevation at different scales is being tested in the Carboniferous of the Burren. This involves the measuring of fracture spacing on traverses done perpendicular to topographic features on aerial photographs at scales of 1:3000 and 1:30000. There is a correlation between mean fracture spacing and the formation of depressions. North-eastern fractures can be seen to increase in frequency with proximity to topographic depressions. It can be seen that depressions form where the mean fracture is <3m over an interval of >10m and where multiple fracture sets intersect at an angle of <30°. This results in a reduction in the sizes of blocks and an increase in the total surface area exposed. We infer from this that the main control on the formation of depressions is an increase in the surface area exposed per mi. To test this we calculate area/mi in areas of different elevation and convert this to the material flux using the mean Burren Limestone weathering rate of 0.053mm/yr. It is a primary aim of this research to investigate fracture spacing measurements at different scales to show if the correlation between spacing and elevation is scale-independent.