



## **Google Earth, virtual fieldwork and quantitative methods in geomorphology**

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Quantitative methods are an important component of geomorphology, for example in describing flow hydraulics and sediment entrainment in fluvial and aeolian environments. Applying mathematics in geomorphology is a key skill for geography students as it enhances understanding of the subject as well as develops generic skills in numeracy and computation. There is strong evidence to suggest, however, that there has been a decline over the last 15-20 years of fluency in the basic mathematical skills of students accepted onto degree courses. The development of original teaching and learning methods focused on student understanding of quantitative methods in geomorphology is, therefore, an important and timely exercise. In this talk I will discuss the innovative use of Google Earth for “sneaking mathematical concepts through the back door...” (Wagner, 2000) of an intermediate level geomorphology course. The approach taken is to undertake small group teaching in a computer lab, linking virtual fieldwork through Google Earth with practical spreadsheet use of geomorphological equations in order to stimulate enhanced learning and understanding of mathematics in geomorphology. In addition to examples of teaching resources we have developed for the course, the main results of a teaching research project, to determine the impact of Google Earth seminars on student learning, will be presented.