

Digital Globes: the next GIS?

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Improvement in the processing power and the graphic memory of commonly available computers as well as the increasing availability of high resolution aerial and satellite imagery freely accessible through the internet has allowed digital globe technologies to develop and become broadly accessible. The recent release of freely downloadable virtual globes, in particular Google Earth, has sparked an enormous public interest and increased people's awareness of geographical information sciences. The ease of use digital globes and their capacity to display spatial information make them a unique tool to communicate and make data accessible to the public. As a result they present an enormous potential for the communication of sciences and particularly could greatly enhance the capacity of environmental science and planning to provide data to decision makers. This paper presents an overview of the different digital globes currently available, their general structure and features. Through a set of case studies, we (i) illustrate the strength and weaknesses of three major digital globes (Google Earth, Nasa World Wind and ESRI ArcGIS Explorer) to be used to access, share and communicate GIS data and (ii) we evaluate their potential applicability in the field of agriculture and natural resource management through a case study approach.