There is now a growing realisation in the environmental and social sciences that to address the grand challenges that face the world a whole system approach is required. These challenges including climate change, natural resource and energy security and environment vulnerability raise multi- and inter-disciplinary issues that require integrated understanding and analysis. Not only must we model the whole physical Earth system, bringing together climate, ecological, hydrological, hydrogeological, and geological models to name but a few, we must link them to socio- economic models. This process of model fusion may well be the only adequate way to provide the necessary framework in which decisions concerning prediction and planning can be most appropriately made. At the British Geological Survey our vision is to provide scientists with the data, tools, techniques and support to address these trans-disciplinary environmental questions impacting on human society. We hope to achieve this by being a leading member of an open community that will share data, applications and environmental models thus enabling collaboration and achieving sustainable solutions. To this end a scoping study was commissioned to assess the current situation and make some preliminary recommendations in order to take steps towards a more joined up and semantically harmonized future in environmental modelling. The only viable option is a 'linked models' approach which enables models to pass parameters between each other at runtime. This is perceived to be a pragmatic, achievable and cost-effective solution. This solution brings together the best and most appropriate scientific models and allows the various scientific disciplines to continue the development of their current models. The European Union has funded multi-national, multi-disciplinary research into 'linked modelling', using the Open Model Interchange (OPENMI) standard. This software used, in conjunction with critical underpinning activities such as data management, semantics and ontologies, understanding of uncertainty and visualisation, offers a rapidly maturing solution, the creation of an Environmental Modelling Platform, with the potential to fulfil this vision. This Environmental Modelling Platform will be founded on the data and information that BGS holds. This will have to be made as accessible and interoperable as possible to both the academic and stakeholder decision making community. The geological models that have been built in an ad hoc way over the last 5-10 years will be encompassed in a National Geological Model which will be multi-scaled, beginning with onshore United Kingdom and eventually including the offshore continental shelf. This initiative began in 2010 and has been embedded in the BGS science in recent months as the major plank of our Landscape and Geology programme. The future will be characterised by the routine delivery of 3D model products from a dynamic multiscaled 3D geological model of the UK. The deployment of this model will generate further significant requirements across the Information and Knowledge Exchange spectrum, from applications development (database, GIS, web and mobile device), data management, information product development, to delivery to a growing number of publics and stakeholders.