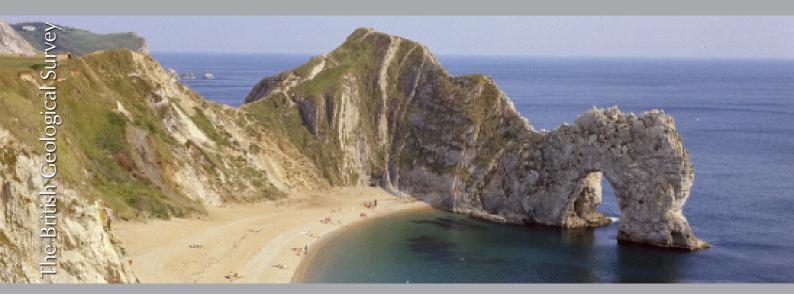


Geology and landscapes



Inderstanding the geology of the UK is essential for continued economic and social development which improves our quality of life. It is necessary for protection of the natural environment, the quality and character of the countryside, the built environment and existing communities. It is important for using and protecting agriculture, forestry, water and mineral resources, soils, and contributing to climate change research.

BGS researches the geology of the UK to produce geological maps, 3D models and associated outputs. This contributes to our information products and underpins many other aspects of work in BGS. We have a **unique set of maps, models and data** and offer the most **extensive and broad-ranging knowledge** on the geology of the UK.

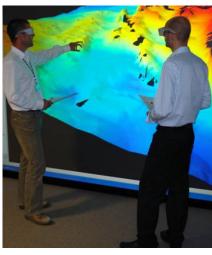
The UK government and regulatory bodies use our data, expertise and impartial advice in policy matters as diverse as energy, planning, flooding and heritage. We produce **dynamic basin models** and key digital geological datasets which are used by a wide range of industries, home buyers, local communities and the general public

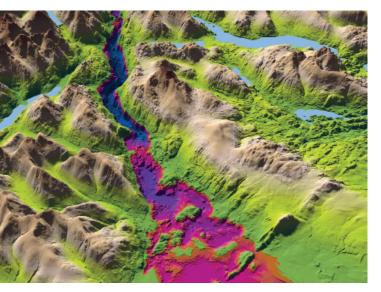
We provide 3D geological models for urban redevelopment and greenfield sites, informing policy and planning decisions. Our knowledge of the effects of past industrial activity and mineral extraction provides a vital **baseline for land-use planning** and our surveys provide information to local government, planners and the tourism industry.

Our geological maps, models and reports provide vital information for major infrastructure and construction schemes. We provide information to the minerals industry and planners to help them plan the efficient use of mineral resources which is essential for responsible minerals development — minimising the environmental impact of mineral extraction whilst avoiding the sterilisation of essential resources.

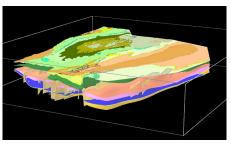
We are using the geological record to help us understand the **effects of climate change**. Studies of the impacts of ancient climate change events and the high-resolution record of environmental change are being used to characterise global change in order to help solve some important questions, such as:













- how ice sheets contract and what is the impact on sea level change?
- can we predict what might happen to our environment in 100 or 500 years from now?

We are also studying upland peat deposits which reflect more recent climatic events. These findings contribute to our wider research on climate change.

Geodiversity describes the breadth of variety of minerals, rocks, fossils, soils and geological processes that contribute to the landscape and, in turn, supports biodiversity and our appreciation of the environment. Our work in geodiversity auditing informs planners who have a duty to ensure that geodiversity is maintained.

We are also involved in the development of **Geoparks** by community and multi-agency partnerships. A Geopark is an area with an important geological heritage, and may be significant for its educational importance, rarity or aesthetic qualities. Geoparks help to promote tourism, helping sustain economic development in largely remote rural areas.

Our research is in collaboration with numerous researchers in universities and the public sector. Our scientists are involved in the scientific professional community, contributing to geological societies and serving on academic and learned society committees. Expertise developed in the UK is deployed in international projects and participating in these stimulates our UK science.

For more information please contact

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