

Did the **Earth** move

Buying a house? Every house-buyer in the UK could benefit from a new geological hazard service from the British Geological Survey, says **Richard Hughes**.



Buying a property is usually the biggest and most painful financial commitment anyone ever makes. So, if you're a property owner, did you give any thought to the stability of the ground beneath your 'castle' before you signed on the dotted line? Did it ever occur to you that your home might subside or collapse because of the geological conditions beneath your feet? The British Geological Survey (BGS) and the Coal Authority

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have just launched a service that helps buyers avoid those nasty surprises by providing comprehensive ground stability information for all parts of the UK.

Ground subsidence and other environmental hazards such as mine waters, mine gases and concealed mine entrances are part of the legacy of many years of coal mining in large parts of the UK. The Coal Authority is the custodian of information on coal mining related subsidence and environmental hazards, and holds information on over four million UK coal-mining records, including 168,000 mine entries and over 500,000 subsidence claim records.

However, most property damage is caused by natural geological hazards. It's a very serious matter for home-owners and insurers. The Association of British Insurers (ABI) estimates that

for you?

geological hazards cost at least £300 million in insurance payouts in an average year, and double that sum in a bad year. Analysts predict that these figures will rise dramatically in the future because of the higher frequency of extreme weather due to climate change. The ABI predicts that by 2050 the figures could rise to £600 million in an average year, and £1.2 billion in an extreme one, at current prices.

So what are the natural geological hazards that cause property damage in the UK?

- Shrink-swell clays. Some types of clay shrink dramatically when they dry out causing serious subsidence. Almost four million homes, mostly in east and south-east England, lie within potential hazard zones.
- Some rocks, usually linked to salt and gypsum deposits, can dissolve leaving cavities that can cause subsidence. This can also affect chalk and limestone areas. Over a million UK homes are in areas that could be prone to this hazard.
- Some ground is weak, compressible and prone to collapse if too much weight is put on it, such as the building of a new house or house extension. Almost three million UK homes could be affected by this hazard.
- We estimate that up to 370,000 UK homes are in areas of possible landslide hazard.
- Finally, running sands, which are sands that flow due to water pressure and can cause buildings to collapse. We estimate 270,000 UK homes are vulnerable.

In 2004 we launched the GeoSure national ground stability digital data set. We believe it is the world's first national coverage of natural ground stability. GeoSure data is now used widely by private sector property and environmental search companies, and by the insurance industry for setting buildings insurance premiums.

On 21 October 2006, along with the Coal Authority, we launched the new Ground Stability Report service for homebuyers. For the first time we can supply homebuyers and developers with information on coal mining related hazards and natural ground stability geohazards in a single report. We source the information from three places: natural ground stability information derived from our GeoSure data set; coal mining related hazard information from the Coal Authority; and salt-related subsidence information provided by the Cheshire Brine Subsidence Compensation Board.

Significantly for customers, the report does not simply regurgitate complex, difficult to understand scientific data. We developed the style, content and format with a number of interested groups including the Council of Mortgage Lenders,



the Law Society and the Royal Institution of Chartered Surveyors. The Association of British Insurers supported the initiative, with a watching brief from the Consumer's Association. The Plain English Campaign helped to create a report that's concise, clear and understandable to the layperson.

The service can handle 3,500 search requests every day, and returns over 90 percent of searches within 24 hours.

We will continue to develop these kinds of unique services, so when you next dip your toes into the shark-infested waters of the property market, don't forget to think about the ground beneath your feet. And remember that by using NERC science – delivered to your door – you can avoid some of the pitfalls and ease the pain of house-buying.

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