



# Using geological data in the financial services sector

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Keyworth

For more than 160 years, the Survey has been collecting information about the geology of the UK and keeping the information in properly curated archives. Until recently, the use of this data has been largely driven by demands from the public sector, especially government departments. To the extent that small to medium businesses or members of the public had needs for geological information, these were mainly met by private geological consultants.

In recent years, however, the Survey has looked increasingly to industry and commerce for support and has had to take its specific needs much more seriously into account. Much effort now goes into compiling databases which directly address the purposes of commercial users.

The Geo-Hazard Susceptibility Package (GHASP) is a digital information package tailored specifically for the insurance industry to allow underwriters to improve their risk assessments. It contains data on the susceptibility of different parts of the country to ground movements covered by the term subsidence, in particular:

- shrinkage and swelling of clays
- landslips
- cambering and gulling
- shallow mining
- natural dissolution.

The system assesses each geological hazard across each postcode sector based on interpretations carried out by field and engineering geologists with life-long experience of BGS surveying in their own regions. Where the package indicates susceptibility to a geological hazard, this does not mean that it has occurred in the past or will occur in the future. Many hazards are triggered by changes in the local environment such as rainfall levels, changes in the water table, excavations and construction. However, local weightings have been used to accommodate such changes to reflect not only the history of the area but also to have predictive value in estimating the subsidence risk. This information is used by underwriters to set their ratings for each postcode sector and these, in turn, determine the annual premiums that each of us pay for insuring our house.

There is no doubt that the geological data is needed by insurers. Over the last eight years, subsidence claims totalled well over £2 billion and the present year looks likely to generate about £420 million in claims, so the rate of subsidence damage shows no sign of slackening. GHASP allows insurers to diagnose the cause of subsidence accurately and therefore to specify the property remedial measures needed for the building. In the longer

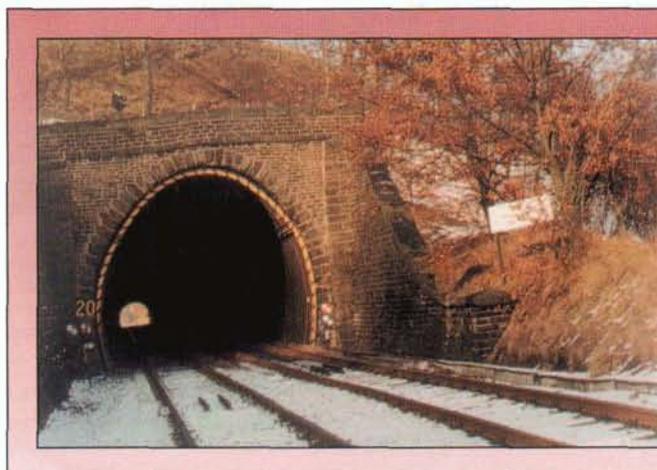
# Insurance

term, GHASP should help planners to avoid building houses in those areas where the risk of subsidence is very high. At present much national wealth is wasted in repairing houses built in the wrong place.

There is an additional benefit in the BGS becoming involved in these matters. Doing business in the City is very rewarding. The Survey has benefited from the way in which both revenue and energy from the City have stimulated our work. Future opportunities for work in this sector are very great and will be seized enthusiastically.



*Holbeck Hall Hotel, Scarborough, destroyed when the adjacent cliffs suffered a rotational landslide.*



*Landsliding affecting a railway tunnel near Todmorden. The viability of the line is thus threatened.*