GeoHazarD

Potential Geological Hazards Data provision

by Jenny Walsby, Keyworth

ublic understanding of, and concern for, the effect of ground conditions on property safety and value is growing. At the same time, local councils are increasingly pressurised by central government to provide environmental information. These pressures have led to public and commercial demands for information about geological hazards. Of most interest is the identification of potentially hazardous areas in the form of ground movement or contamination that may lead to added costs to developers, householders, or local government. Such costs could include increased insurance premiums, house price devaluations, land remediation, and engineering works to stabilise land or property.

To date, the BGS has provided ondemand reports of potential geological hazards for specific locations and nationwide digital data for certain geohazards on a postcode sector basis. The rising need for more detailed data related to the geology across the country has resulted in the initiation of the GeoHazarD programme. The objectives of this programme are to produce data-sets that identify potential geohazards to the human environment for Great Britain and to ensure the data are in a format that can be made available and are easily usable by both BGS staff and external customers.

The provision of current national data in a more usable form will enhance the processes of identifying geohazards and responding to enquiries. Data collection and digitisation methods will be standardised through quality control procedures and a centrally available geohazard data store will be created. This data store and its associated indexes will then provide a tool for both

identifying new geohazards and quantifying hazards known to the BGS.

The planned data-sets include:

- Scanned borehole logs for onshore geology.
- Drift thickness models.
- Hydrogeological classification (aquifer vulnerability).
- Areas of potential radon hazards.
- Potential natural geotechnical hazards.
- Potential mining-related geohazards.
- Historical land-use data.

• Scanned BGS reports and mining publications.

Scanned borehole logs and reports will enable rapid data provision and identification of particular geological and potential hazard information via character recognition techniques. The BGS will gain a digital archive and be better equipped to provide customers with rapid responses to enquiries and detailed geological information in digital form.

Drift thickness models and potential geotechnical and mining hazards can assist planners in identifying possible engineering problems and provide decision support information. Likewise, the location of high radon levels, aquifers vulnerable to contamination, and industrial land use can guide planning and construction decisions, where risk to health and the environment are of concern.

The initial suite of potential geohazard data will be based on 1:50 000 scale BGS geology. These data-sets are expected to highlight areas requiring further study and, in combination with customer demands, could provide the basis for future detailed investigation and information creation.



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Subsidence hollow, measuring up to 10.4 metres across and 5.5 metres deep, near to Ure Lodge, Ure Bank Terrace, Ripon. The collapse occurred on 23 and 24 April 1997 and was the latest in a series that have occurred over the past 30 years. The subsidence was caused by a cave system formed in gypsum.