

# Inland landslides in Britain

## Building a database to monitor unstable ground

by Alan Forster, *Keyworth*

Britain does not suffer from landslides of the magnitude experienced in actively growing mountainous regions such as the South American Andes, where landslides have devastated large areas of land with great loss of life. However, we do have many landslides in Britain (more than 10 000 are known), and some are very large and spectacular such as those in the South Wales Coalfield and Mam Tor. Fortunately most are also ancient, dormant and enhance our scenery rather than threaten property and lives. A recent landslide at the Coombs near Ainthorpe in North Yorkshire provides good illustrations of the sort of features that are formed during landslide activity and demonstrates the severe damage to roads that they can cause.

First time landslide activity occurs from time to time through natural causes, such as unusually heavy rainfall and the weakening of rock as it weathers. More often, movement is a reactivation of a dormant slide that may have moved originally in the wetter conditions at the end of the last ice age. Landslides may also be triggered artificially by ill-advised land use, such as excavations at the foot of slopes, saturating slopes by the ill-considered disposal of surface water and loading slopes by dumping material on them. The movements started by such actions are often extremely difficult and expensive to stabilise, but could usually be avoided by taking expert advice at an early stage of project planning. The BGS holds a National Landslide Database that contains reference to over 8000 slides within England and Wales but the database is the product of a data search and only slides that have been

recorded in the literature or on the maps produced by the BGS are included. It is known that many more landslides are present in Britain that could be recognised, mapped and described by a walk-over survey.

Therefore, when considering the landslide potential of a site, it is as important to recognise the conditions that

*Severe cracking of a road surface due to landsliding at Coombs near Ainthorpe, North Yorkshire.*



*Very large toppling failure in Pennant Sandstone at the head of the Rhondda Valley, South Wales.*

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predispose a slope to landsliding, such as slope angle, geology and groundwater, as it is to consider existing records of known landslides.

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Every year new slides take place and dormant slides are reactivated. The BGS updates its landslide records as time and resources allow but can only do so where slides are sufficiently large to be newsworthy, or when notification is received from the many contacts that are maintained with other geologists and engineers working in Britain. Therefore, the BGS would welcome notification of the occurrence of new landslides or the reactivation of existing ones.

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