

Ground Stability - Case Study

Significant areas of the UK are at risk from subsidence. The obvious culprit is coal mining, but there are also tin mines, and many other minerals such as gypsum, salt, and anhydrite that have been mined or are being mined across the country.



On a development of brand new homes in Hemel Hempstead, buyers were pulling out after a 20 foot deep cavity opened up caused by former chalk mines and clay pits. In High Wycombe, a car was swallowed up by a 30 foot hole in a driveway, also thought to be associated with old chalk mine workings.



There are many potential causes of ground instability. As well as mining, there can also be natural causes of subsidence, and these can be made worse by the impact of climate change. For example, clay shrinkage is the main cause of subsidence in the UK and reportedly accounts for 75% of subsidence insurance claims. Clay shrinkage is caused by variations in the moisture content of the clay subsoil (frequently affected by trees taking water out of the ground, or leaking drains) resulting in volume changes, which in turn affects foundations and can result in significant subsidence damage.

With changing rainfall and ground water conditions there has been a dramatic upturn in the number of cases of ground collapsing through natural causes known as sinkholes. Large areas of the country are underlain by surface deposits or rock formations such as limestone, chalk, salt, and gypsum. These types of rocks can be removed or readily dissolved by surface flooding, heavy rainfall, water abstraction, or by drought conditions removing the support of water in underground cavities.

Homebuyers should look to protect themselves from this increasing risk and Future Climate Info Premium and Standard Reports provide analysis of all the relevant data sets.