An in-depth look at subsidence

The weather we see in this country never fails to surprise. February 2023 was the driest for 30 years in England with rainfall at less than half the UK average. February 2023 was also the joint fifth mildest on record. Compare that with March 2023 where England and Wales had their wettest March for over 40 years. This resulted in the majority of the UK having less sunshine hours than average.

Such unpredictable and extreme weather prompts the recurring question whether this will be a year when Zurich and other insurers see an overall increase in the number of subsidence claims reported to them. We will likely know the answer to this question in early August.

The Association of British Insurers (ABI) data showing the number of domestic subsidence claims notified across the industry in 2022 totalled 23,000. Coincidentally, this is similar in number as recorded in 2018. 2021 saw 15,000 claims recorded due to the summer in the South East of England being much wetter and less sunny than average, so compared with 2021, 2022 saw a considerable uplift across the industry.

Interestingly, in a typical year, 60% of valid subsidence claims will be due to root induced clay shrinkage. 18% will be due to leaking drains / mains water supply pipe. 18% will be due to poor ground, infill and consolidation issues whilst the remaining 4% will be due to other causes such as heave, landslip, sinkholes or mining issues.

In a “surge” year, the percentage of valid root induced clay shrinkage claims rises to around 85%.

What is Subsidence?

Subsidence is the downward movement of the ground beneath the building other than by settlement. Settlement being downward movement as a result of the soil being compressed by the weight of the buildings within ten years of construction.

Subsidence can occur when the clay soil contracts when moisture within it is lost. This is likely to be because of a lengthy period of dry weather combined with high temperatures. The issue can be exacerbated where there are nearby trees and other vegetation which will also take up substantial amounts of water from the ground during this period.

Subsidence can also occur because of other factors such as a leaking drain which can cause softening of clay soils or the washing away of a sandy soil. Earlier mining activities, decomposition of peat or a change to a groundwater course may also lead to subsidence.

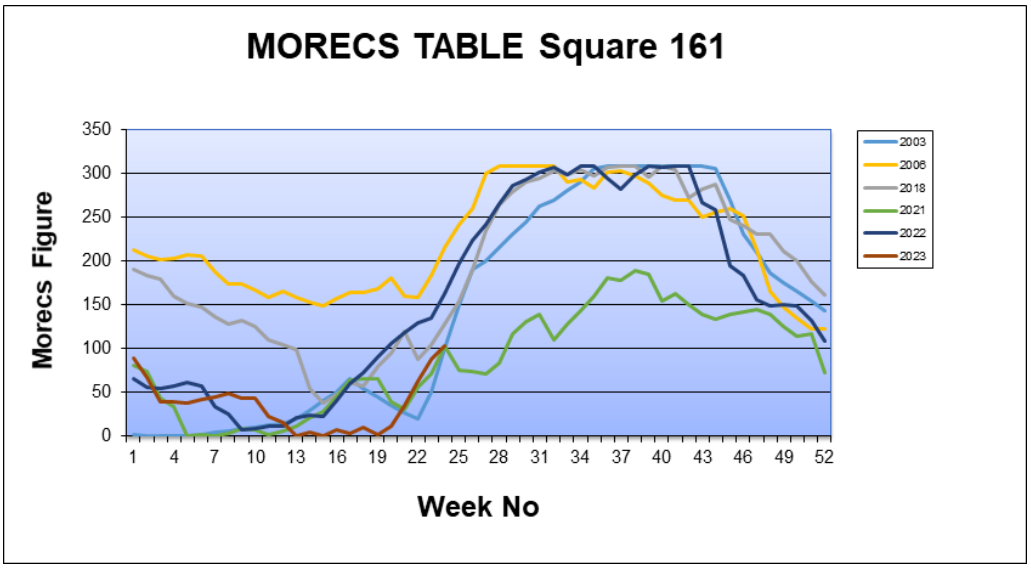
Regardless of the cause, as the foundations of the property move downwards this adds strain to the structure of the property and cracks appear, usually diagonal in nature and close to windows and

doors or near to extensions. Other indicators can be windows and doors starting to 'stick' or rucking of wallpaper. Subsidence cracks are usually mirrored internally and externally and are normally found in concentrated areas. Cracks are widest towards the roof of the property and narrow towards ground level.

It's all in the soil…

MORECS (Meteorological Office Rainfall and Evaporation Calculation System) is a useful guide for those monitoring soil performance and data from grid square 161 (below) in North London shows us exactly this. The soil in this area comprises of London Clay, a type which is prone to swelling and shrinking depending upon the weather experienced and vegetation activity.

Current data suggests a reading of 103. Compared with previous years you can see that the moisture levels retained in the soil at the present time, remain fairly high. If this continues, it will be unlikely that we will experience a surge in claim numbers reported. The Met Office is currently predicting "a mix of typical summer conditions over the UK" through to mid July but the next six weeks will be key weatherwise in determining whether Zurich sees an uplift in clay related subsidence claims.



Due to the prevalence of clay soil, the South East of England is more prone to subsidence movement than the rest of the UK due to a combination of the geology and a tendency for a warmer drier climate. Looking forward, climate change means more properties beyond the South East could be at risk if global warming drives hotter, drier summers.

That said, just because a property sits in this high-risk area it does not mean that it will necessarily suffer damage. It is possible in such locations that the pattern of movement is uniform across the buildings footprint and does not lead to any subsidence damage.

Therefore we continue to closely monitor this region and the UK as a whole both for industry developments and our own experience as we move through the summer months.

The Claims process

Customers perception may be that subsidence claims are a long and drawn out process and expensive for insurers although in most cases, neither of these are true. If the cause of the movement, such as a small tree is quickly identified and removed at an early stage, the property should stabilise. This may mean that only crack repairs and redecoration are required to restore the property to its pre incident condition. In such a case the claim can be concluded within a few months and without the need to monitor the property for signs of ongoing movement.

Over the last decade there has been vast improvements in technology and engineering innovations. As a result, Zurich and its vendor partners track soil conditions (see above) which enable us to monitor readings and long-term weather forecasts that provide a suite of predictive analytics that allow us to plan accordingly.

Quickly identifying and arresting the cause of the subsidence movement is critical. These 3 steps are integral to our claims solution which enables quicker, more efficient, and effective resolution that are unique to each event. Zurich will usually appoint a Loss Adjuster who specialises in Subsidence to support with:

Investigation – to identify the cause of the movement. Investigations may include analysing soil conditions, establishing depth of foundations and / or reviewing historical and geological maps.

Mitigation – by removing the cause of the movement such as felling the offending tree to prevent further moisture extraction or repairing drains to prevent wash out or softening of the soils.

Repair – with removal of the cause only superstructure (above ground) crack repairs and redecoration may be required. Substructure (below ground) repairs will be required if the structure does not stabilise. This could include lightweight helical piling, targeted lifting (jacking) or injection grouting. These can replace (where appropriate) more traditional below ground works such as concrete underpinning and is therefore more sustainable.

What is our data telling us?

Our data shows that there was a 26% increase in overall claim volumes reported in 2022 compared with 2021. Interestingly though, this year (January – May 2023) we have seen reported claim volumes 40% higher when compared with 2022.

Analysing our historic data from 2018, we saw the weekly subsidence notification volume peak in October 2018 at 56 new claims. 2022 data shows weekly subsidence notification volumes at 43 in July peaking at 47 in late August. We saw another “spike” in late October.

We continue to pro-actively manage historic open claims through to conclusion but where they do remain open, we are seeing the expected cost of settlement increase. This can be explained by the very nature of these claims, involving third party vegetation. In most cases, we will need to monitor the property to evidence the fact that the third party vegetation is influencing the property before the third party owner will take any action. There is the additional cost of monitoring itself along with further costs associated with underpinning of the property if the offending vegetation is not removed or its influence reduced.

Although not specific to subsidence but claims in general, we are also seeing the cost of repairs increase due to inflation, the availability of some building materials combined with factors affecting the labour market too.

Avoiding Subsidence - Advice for customers

We recommend that trees and shrubs are not planted too close to a property and sometimes this information is contained in the guidance which comes when purchasing trees. Vegetation already in place should be managed and the advice of an Arborculturalist / tree surgeon sought where appropriate.

Conduct regular general maintenance including fixing leaking drains, clearing debris from gutters and prune trees and shrubs.

Most importantly, do not panic! Cracking can occur in a property for reasons not related to subsidence such as thermal movement, lintel failure or roof spread – where there is insufficient restraint within a roof structure. The resulting horizontal thrust from the weight of the roof covering can

cause outward movement at the head of supporting walls. This can occur when old, lighter roof coverings are replaced with heavier modern equivalents.

Wall tie corrosion – where ties in cavity walls can rust and expand over time causing horizontal cracking in external walls.

What's next for 2023?

Zurich will continue to analyse industry commentary and our own experience as facts develop, with claim volumes closely monitored.

Our specialist claims handlers and vendor partners remain focused on deploying industry-leading mitigation techniques and ensure specialist teams are appointed where it is required. We are also seeing the emergence of technology and capability around subsidence prediction tools which, coupled with the impact of climate change leading to more vulnerable properties, will help us manage this peril in a more proactive way and help protect our customers and communities become more resilient to risk

At Zurich we are dedicated to provide sustainable eco-friendly services with our ambition and commitment towards a sustainable future and we expect the same from our supply partners to develop an aligned claims service.

With this in mind, we are piloting satellite monitoring of properties on a small number of cases. If the satellite data proves comparable to the data captured physically, the need to level monitor a property for 12 months to evidence that vegetation is an influence may be negated given the historic satellite data available. Data is currently captured at the rate of 4 images every 16 days. Not only will this benefit our customers by not having to be available in order for measurements to be taken, we should see claim life cycle reduced.

Initial visits carried out remotely by our supply partners at a convenient time to suit our customers are proving increasingly popular and we are seeing very few appointment delays given there is no need for our partners to travel to site.

In both initiatives we all will benefit from the carbon footprint reduction.

Removing trees to protect properties from root damage may be necessary but this does have a negative impact environmentally. To help offset this we are continuing to plant 1 million trees in Brazil through the Zurich Forest Project.

In conclusion, as with other years, it is too early to say with any certainty whether this will be another notable year for subsidence but if it is, Zurich and its vendor partners will be prepared.