

# The Clay Research Group

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## RESEARCH AREAS

Climate Change ♦ Data Analysis ♦ Electrical Resistivity Tomography  
Time Domain Reflectometry ♦ BioSciences ♦ Ground Movement  
Soil Testing Techniques ♦ Telemetry ♦ Numerical Modelling  
Ground Remediation Techniques ♦ Risk Analysis  
Mapping ♦ Software Analysis Tools  
Artificial Intelligence



February 2022  
Issue 201

# The Clay Research Group

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## Council Trees

Emma Eastwood, Mitigation and Recoveries Manager at Innovation Property, provides a response to Andrea Plucknett’s article featured in the December edition of the CRG newsletter.

## Contributions Welcome

We welcome articles and comments from readers. If you have a contribution, please Email us at:

clayresearchgroup@gmail.com

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## Joint Mitigation Protocol

In last month’s edition we asked if anyone could provide an update regarding the Joint Mitigation Protocol. One reader responded as follows:

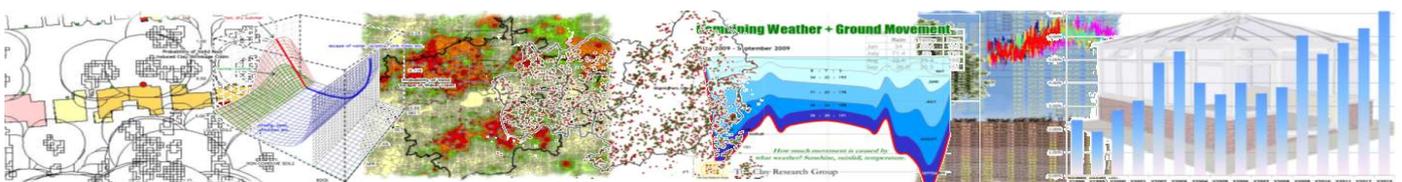
“The JMP hasn’t been in use for a long time possibly 10 years or so.

JMP came in when insurers had the whip hand following the decision in Paterson v Humberside amongst other i.e.

*“It is sufficient to establish causation that that the trees were an effective cause of the damage. The foundations were not so poor that the damage was bound to happen in any event..... The fact that the property had shallow foundations and was therefore more susceptible to damage from soil shrinkage caused by invasion of tree roots is no more relevant to liability than the fact that a plaintiff has a thin skull. The roots take their victim as they find it.”*

However with the changes to case law (*Berent v Family Mosaic Housing (May 2011)*, then *Pattichis v Enfield (Nov 2016)* and *Gurdwara v Royal Borough of Kensington & Chelsea (May 2019)*) LAs are increasingly in a stronger position and the only times they are likely to be liable is if they take no action or if there is TPO compensation.

Essentially JMP provided some protection to the LA’s but changes to case law means they no longer need this. I think the issue is perhaps that the LA’s solicitors aggressively defend and incur costs when perhaps they don’t need to.”



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## Response to “Subsidence claim recoveries – When are legal fees reasonably incurred?” published in the December 2021 edition.

**Emma Eastwood**

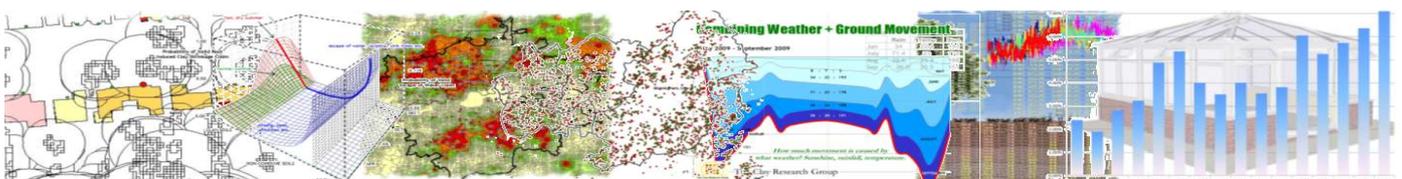
Mitigation and Recoveries Manager  
Innovation Property

In her article in December’s CRG Newsletter, Andrea Plucknett makes some interesting points. Her over-arching question is whether certain legal fees incurred by solicitors acting for insurers can be considered as recoverable from local authorities. The short answer is that challenges about legal costs are matters to be dealt with by the courts. Surely it’s for those feeling hard done by to mount the challenge and make the argument about distinguishing what’s part of the legal process and what’s claims administration? There’s little incentive for insurers or their solicitors to do so.

Having started with a negative, let’s move to a more positive comment. As Andrea rightly observes, there are unnecessary costs in the current process. I suggest that it’s a different question that ultimately needs to be answered. ‘How can the overall handling cost of insurers and local authorities dealing with tree-root subsidence claims be reduced to the mutual benefit of both?’ In this article, ‘insurer’ means either the insurer or the adjuster who is handling the claim on their behalf.

It’s common knowledge in all walks of life that using solicitors is expensive and should happen only when other attempts to resolve an issue between two (or more) parties have failed. The hourly solicitor rates that each side can charge the other bear little relationship to the actual cost of doing the work. A legal executive – so not even a qualified solicitor – can charge £512 per hour; and that’s before a success fee of up to 100% is applied. How can activity and costs be lifted out of the expensive legal arena?

Firstly, a reminder of the priority of a property insurer. It is to settle a claim by a policyholder correctly in accordance with policy cover and in as short a time as possible. Subrogation - recovery of money from a wrongdoer - is important. But recoveries are always fraught with problems, foreseen and unforeseen. Avoiding paying money unnecessarily in the first place is a greater priority. There’s often more than one way to correctly resolve an insurance claim.



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The way that local authorities deal with approaches from insurers varies considerably. The savvy ones play to an insurer's priorities. There has to be good evidence that the local authority tree is causing the subsidence damage, of course. However, after that, the local authority sets the bar low and co-operates with prompt removal of vegetation. In return, it secures an agreement that the insurer won't seek a recovery.

Other local authorities seem to allow their solicitors to drive the process. The end result is expected to be a trial unless there happens to be an agreement reached along the way. The focus is on how much should be paid by the authority, not the steps that the authority can take to reduce the insurer's claim cost (and eliminate the subrogation claim against the authority in the process).

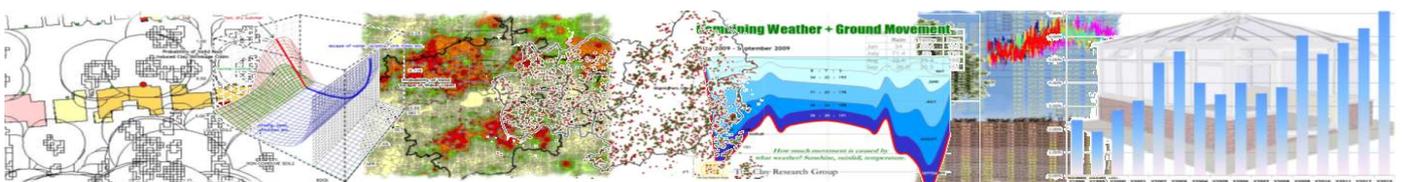
It would be unfair to suggest that co-operating on mitigation will always result in an agreement not to pursue subrogation. On particularly high-value claims, it won't. But even in those cases, there's a benefit in the insurer and local authority discussing the claim in case the overall cost of settlement can be reduced.

Have local authorities noticed a reduction in dealings with insurer's solicitors? They should have.

The insurer still instructs their solicitor on Day One, often auto-generated. But a number of insurers now request their solicitors not to contact the local authority until the policyholder's claim is settled. The benefit to the insurer is that it no longer receives unnecessary updates from its solicitor, sometimes on claims that are subsequently declined or withdrawn; a reduction in handling cost. The solicitor is the back-stop to ensure that limitation isn't missed. So, if the local authority has reached a timely accommodation with the insurer that recovery proceedings won't be commenced in return for tree mitigation, it never actually hears from the solicitor.

Andrea threw down a general challenge about legal costs. Here's one in return. How many Local Authority Insurance Officers can say they have a good working relationship with the in-house mitigation teams of the major subsidence adjusters, and understand their priorities? And, if they don't, are they going to do anything about it?

**Emma Eastwood**



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## Sinkhole Disaster Averted

Briefly, a sinkhole appeared in the rear garden of a five-year-old property in Bishops Stortford, Hertfordshire. Its focus was a soakaway collecting rainwater from the house. Superficial geology comprises Head deposits (clay, silt, sand and gravel) overlying bedrock of Thanet formation and the Lambeth group (clay, silt and sand). The photographs below tell the story.

The hole was widening, with its periphery expanding towards the rear house wall.

The homeowner notified both the NHBC and his insurer. The NHBC showed no interest and didn't send anyone out to investigate. Insurer's instructed Innovation who sent an engineer to site.

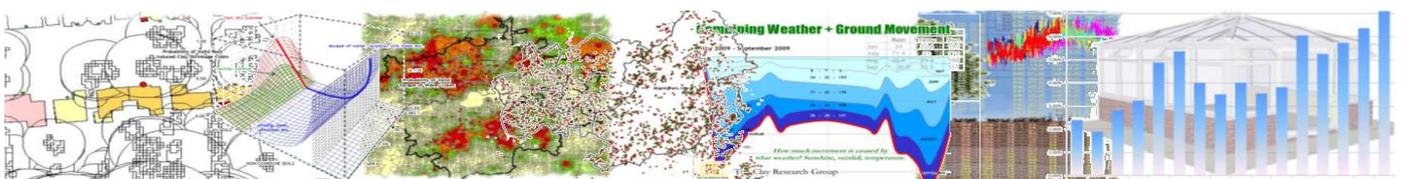
Technically, the insurer had no liability under the policy as there was no damage to the building. However, urgent action was needed. Insurers decided to resolve the claim given the potential risk.



Loose debris was removed and the hole was backfilled with concrete.

Our thanks to Allan Tew, Head of Engineering at Innovation Group for sending a video of the sinkhole repair. It is available at <http://www.theclayresearchgroup.org/newsletter.asp>.

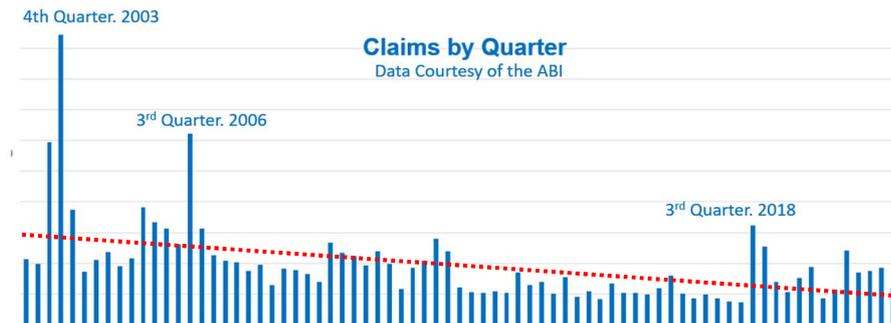
Select the 'monthly newsletter' tab and then download the 'sinkhole video' file.



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## Subsidence Claims by Quarter

The graph below plots the number of claims notified by quarter compiled from data provided by the ABI spanning 2003 to 2021. Despite concerns that climate warming might generate an increase in claims, the graph indicates a gradual reduction in numbers.

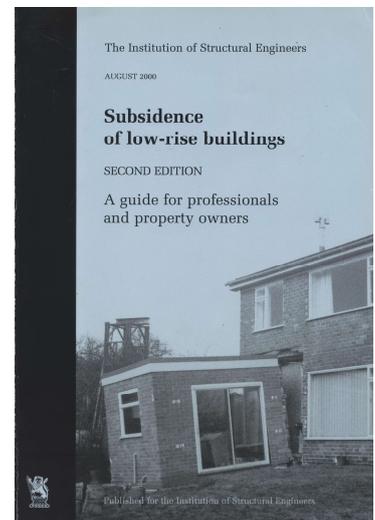


## Subsidence of Low-Rise Buildings - Third Edition

The Institution of Structural Engineers have announced their intention to update their well-received guide ‘Subsidence of Low-Rise Buildings - A Guide for Professionals and Property Owners’.

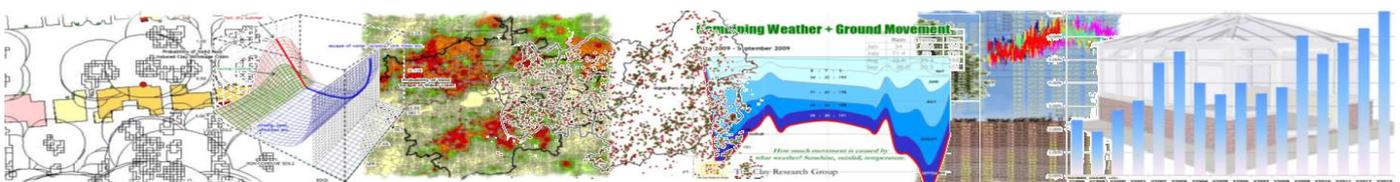
The original version was first published in 1994 under the chairmanship of Prof Brian Clancy and the Second Edition was released in 2000. The Third Edition, under the new Chairmanship of John Patch, will be released in late 2022 and will reflect changes in law and regulations, new practices and uses of technology.

Further information can be obtained from Rob Thomas (Rob.Thomas@istructe.org)



## Subsidence Forum Training Day

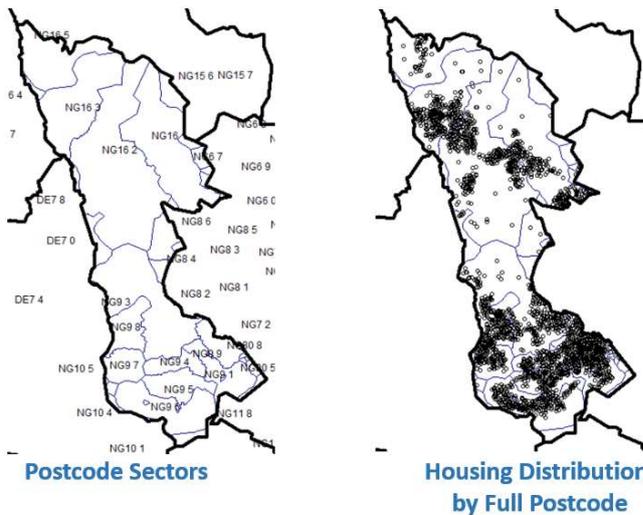
We understand the Forum are arranging a training session to take place in October, all being well. Check their web site at <https://www.subsidenceforum.org.uk/> for updates.



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## Subsidence Risk Analysis – BROXTOWE

Broxtowe is situated in the East Midlands in the administrative county of Nottingham. It occupies an area of 80.11km<sup>2</sup> with a population of around 110,000.



Housing distribution across the district (left, using full postcode as a proxy) helps to clarify the significance of the risk maps on the following pages. Are there simply more claims in a sector because there are more houses?

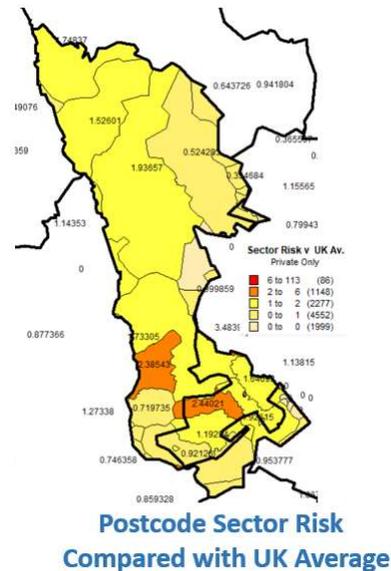
Using a frequency calculation (number of claims divided by private housing population) the relative risk across the borough at postcode sector level is revealed, rather than a 'claim count' value.

*Distribution of housing stock using full postcode as a proxy. Each sector covers around 2,000 houses and full postcodes include around 15 – 20 houses on average, although there are large variations.*

From the sample we have, sectors are rated for the risk of domestic subsidence compared with the UK average – see map, right.

Broxtowe is rated 207th out of 413 districts in the UK from the sample analysed and is around 1.3x the risk of the UK average, or 0.35 on a normalised scale.

The distribution varies considerably across the borough as can be seen from the sector map.



**Risk compared with UK Average.**  
 Broxtowe district is rated around 1.3 times the UK average risk for domestic subsidence claims from the sample analysed. Above, risk by sector.

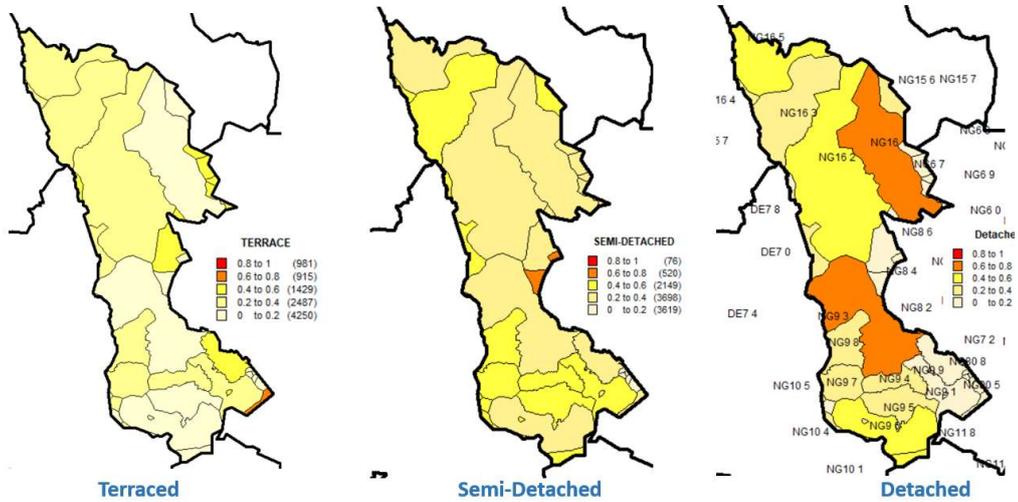


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## BROXTOWE - Properties by Style and Ownership

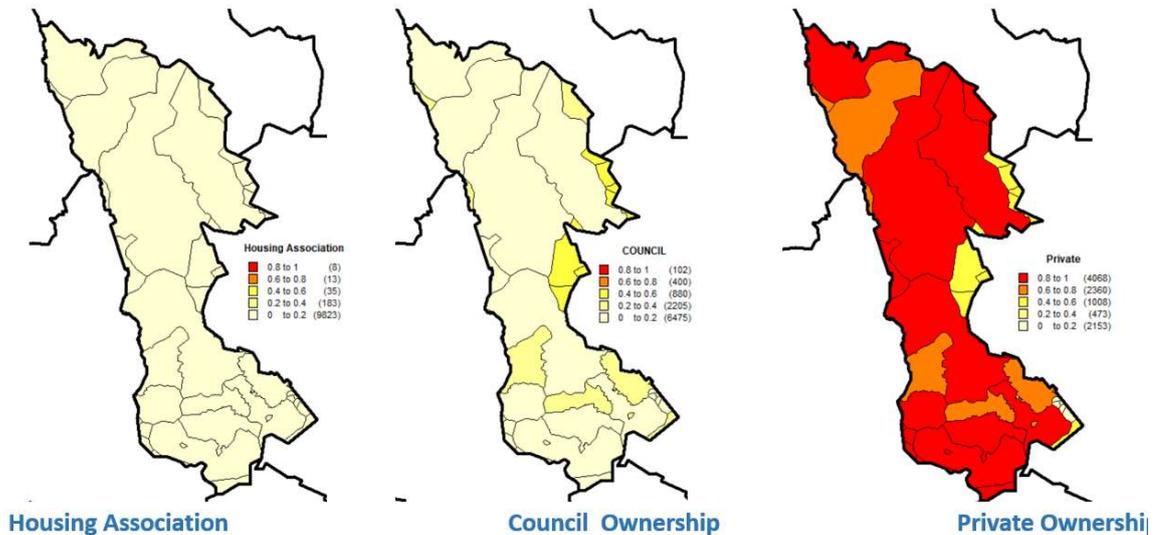
Below, the general distribution of properties by style of construction, distinguishing between terraced, semi-detached and detached. Unfortunately, the more useful data is missing at sector level – property age. Risk increases with age of property and the model can be further refined if this information is provided by the homeowner at the time of application.

### DISTRIBUTION BY HOUSE TYPE – BROXTOWE



Distribution by ownership is shown below. Privately owned properties are the dominant class and are spread across the borough.

### DISTRIBUTION BY OWNERSHIP – BROXTOWE



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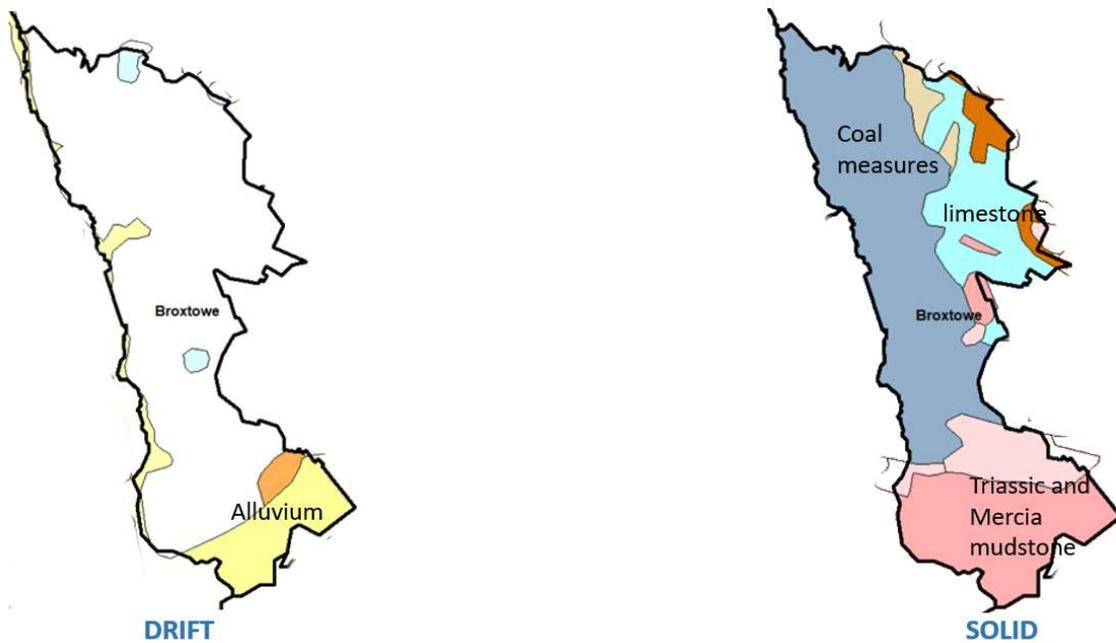
## Subsidence Risk Analysis – BROXTOWE

Below, extracts from the British Geological Survey low resolution 1:625,000 scale geological maps showing the solid and drift series. View at: <http://mapapps.bgs.ac.uk/geologyofbritain/home.html> for more detail.

See page 11 for a seasonal analysis of the sample we hold which reveals that in the summer there is a greater than 60% probability of a claim being valid, and of the valid claims, there is a high probability (greater than 60% in the sample) that the cause will be clay shrinkage.

In the winter the likelihood of a claim being valid remains around 60% and if valid, there is greater than 60% probability the cause will be due to an escape of water. Maps at the foot of the following page plot the seasonal distribution.

### 1:625,000 scale British Geological Survey Maps



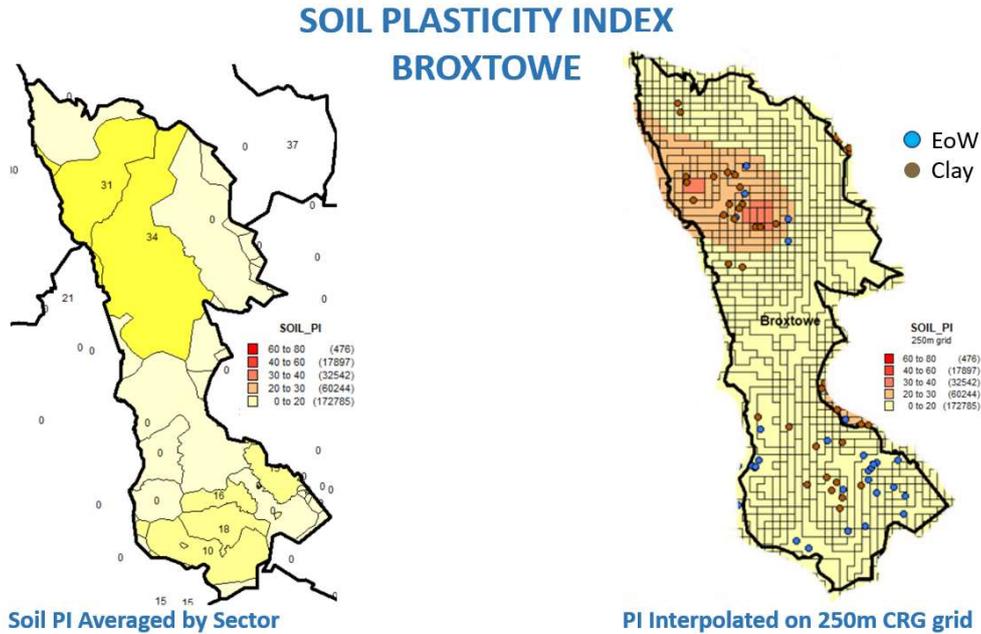
*1:625,000 series British Geological Survey maps. Working at postcode sector level and referring to the 1:50,000 series maps deliver far greater benefit when assessing risk. The geology delivers a fairly equal distribution in terms of causation with clay shrinkage being the dominant cause in the summer, and escape of water in the winter.*



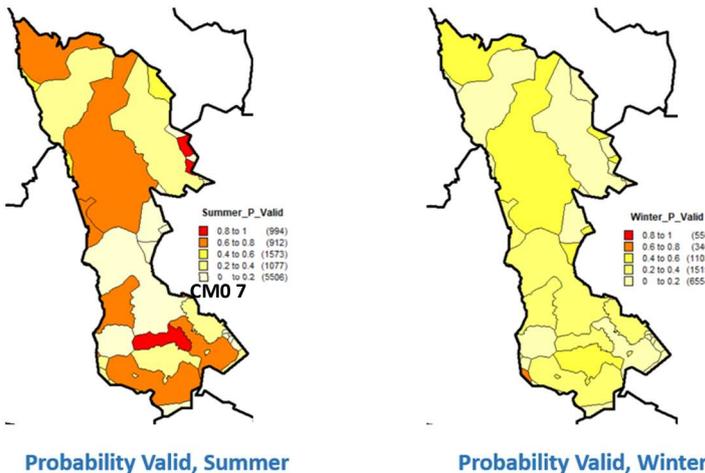
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## Liability by Geology and Season

Below, the average PI by postcode sector (left) derived from site investigations and interpolated to develop the CRG 250m grid (right). The higher the PI values, the darker red the CRG grid.



Zero values for PI in some sectors may reflect the absence of site investigation data - not necessarily the absence of shrinkable clay. A single claim in an area with low population can raise the risk as a result of using frequency estimates.



The maps, left, show the seasonal difference from the sample used.

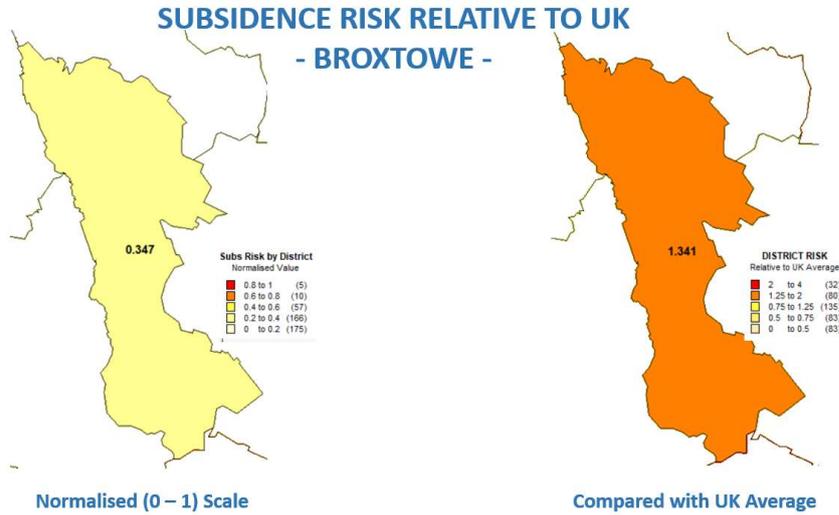
Combining the risk maps by season combined with the table on page 11 is perhaps the most useful way of assessing the likely cause, potential liability and geology using the values listed.

The apparent high summer risk in sector CM0 7, which has an alluvial topping, is contrary to the fact that high claims in the summer month are associated with clay soils. This is due to a few claims notified in an area with a low housing density and a few claims being notified in the summer, delivering a high frequency. The claim count should be used to identify such anomalies.



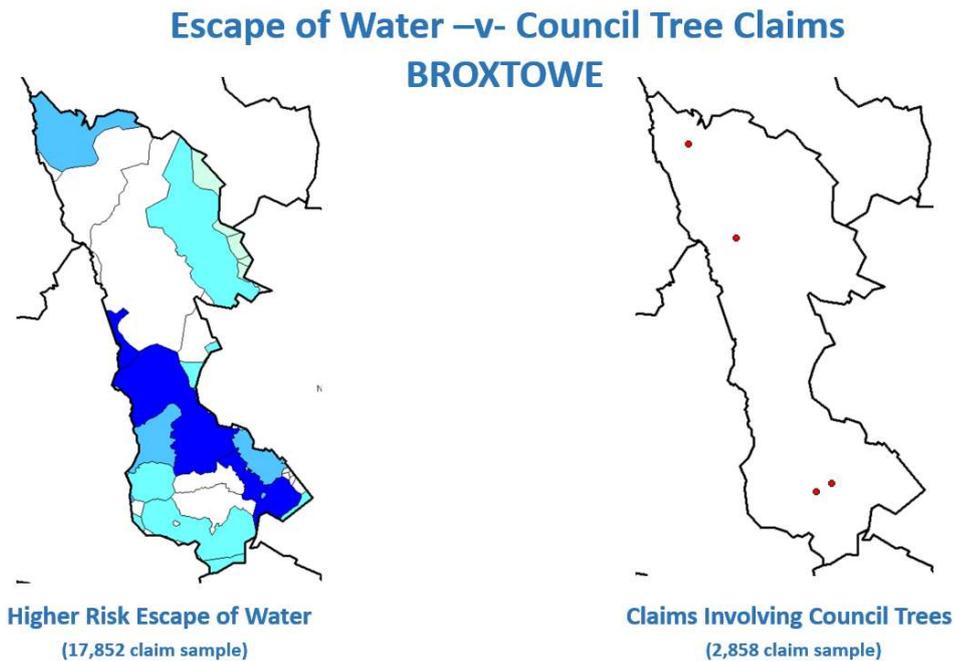
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## District Risk -v- UK Average. EoW and Council Tree Risk.



Below, left, mapping the frequency of escape of water claims reflects the presence of shrinkable, non-cohesive clay soil – alluvial, sands and gravels. The absence of shading can indicate a low frequency rather than the absence of claims.

Below right, map plotting claims where damage has been attributable to vegetation in the ownership of the local authority from a sample of around 2,858 UK claims. The low number reflects the geology.

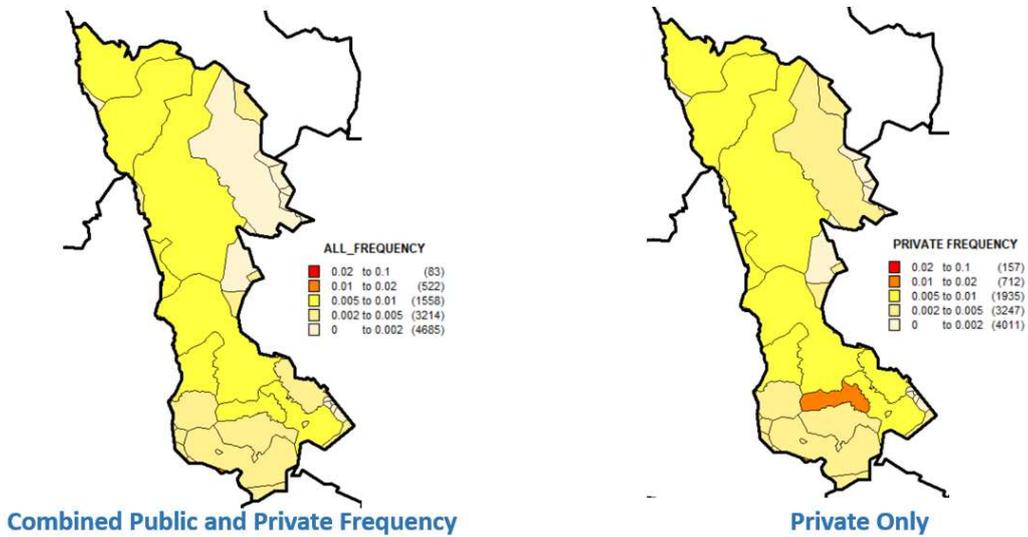


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## BROXTOWE - Frequencies & Probabilities

Mapping claims frequency against the total housing stock by ownership (left, council and housing association combined and right, private ownership only), reveals the importance of understanding properties at risk by portfolio. There are a few sectors in the ‘private only’ map with an increased risk. There is little (if any) difference in Broxtowe due to the high concentration of private housing.

### POSTCODE SECTOR SUBSIDENCE RISK (FREQUENCY) BY OWNERSHIP – BROXTOWE



On a general note, the reversal of rates for valid-v-declined by season is a characteristic of the underlying geology. For clay soils, the probability of a claim being declined in the summer is low, and in the winter, it is high. Valid claims in the summer are likely to be due to clay shrinkage, and in the winter, escape of water. For non-cohesive soils, sands gravels etc., the numbers tend to be lower throughout the year.

### Liability by Season - | BROXTOWE

District	valid summer clay	valid summer EoW	Repudiation Rate (summer)	valid winter clay	valid winter EoW	Repudiation Rate (winter)
Broxtowe	0.364	0.254	0.382	0.25	0.36	0.382





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## BROXTOWE



The above graph identifies the variable risk across the district at postcode sector level from the sample, distinguishing between normal and surge years. Divergence between the plots indicates those sectors most at risk at times of surge (red line).

It is of course the case that a single expensive claim (a sinkhole for example) can distort the outcome using the above approach. With sufficient data it would be possible to build a street level model.

In making an assessment of risk, housing distribution and count by postcode sector play a significant role. One sector may appear to be a higher risk than another based on frequency, whereas basing the assessment on count may deliver a different outcome. This can also skew the assessment of risk related to the geology, making what appears to be a high-risk series less or more of a threat than it actually is.

The models comparing the cost of surge and normal years is based on losses for surge of just over £400m, and for normal years, £200m.

