



The FloodFlash Commercial Risk Report

2022

Your up to date guide
on commercial flood
risk in Britain

 FloodFlash

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Introducing the 2022 Commercial Risk Report

The past 12 months have been characterised by great challenges and opportunities in the struggle to make the world more resilient to extreme weather. Devastating flooding across Europe and Asia was matched by the widespread wildfires in the US. With a backdrop of huge losses world leaders met to renew a global ambition on climate change at COP26 in Glasgow.

For some the conference proved unsatisfactory, particularly the failure to phase coal out. Despite any shortcomings, many saw a new ambition to face climate change. Commitments to green financing and increased transparency emerged as reasons to be positive.

Closer to home we saw the impacts of extreme weather firsthand. During the summer Public Health England issued advice to stay inside due to excess heat for the first

time ever. Flooding came Storm Christoph and flash flooding in London arrived either side of the heat. More recently at the beginning of 2022 Storms Dudley, Eunice and Franklin followed one another in quick succession causing widespread disruption.

We aim to help more people recover from catastrophe using parametric insurance. The first step is to help those at risk understand their exposure and what they can do about it. By reading this report, you've made a small but significant commitment to help those efforts.

Thank you for your support.

Dr Ian Bartholomew
FloodFlash Chief Science Officer

40% of small businesses close for good after catastrophic loss from flooding.*

Source: *<https://www.raconteur.net/report/future-insurance-2020/>



Image: FloodFlash founders Dr Ian Bartholomew and Adam Rimmer

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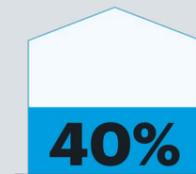
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Executive summary

Number of commercial properties in Britain

1,642,258



40% of small businesses close for good after catastrophic loss from flooding



Business properties are 2x more likely to be at risk from flooding compared to the average British property

Top 3 sectors at risk:



20.7%
 Manufacturing, wholesaling & logistics

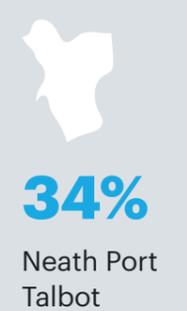
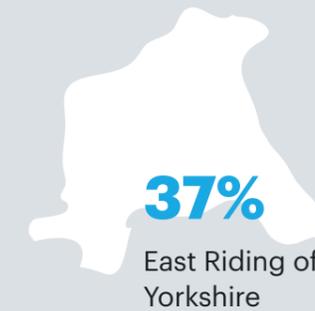


32.5%
 Retail



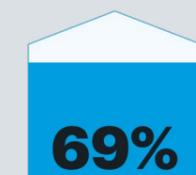
11.1%
 Office

Top 3 county areas in Britain that have more than 30% of commercial properties within a 200 year flood zone:

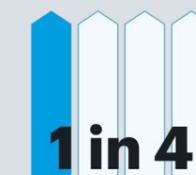


33,846

With over 30,000 commercial properties impacted, the floods that occurred throughout 2007 were the worst on record.



69% of businesses surveyed are concerned about the impact of flooding on supply chains.



Over 1 in 4 of those who have flooded in the past 10 years experienced a prolonged period of business interruption.

Methodology

Our approach for the 2022 report

Each year, we take the best data available to establish the threat that flooding poses to UK businesses. The resources we draw upon include industry leading data from our partners at the Ordnance Survey and JBA as well as the hugely-helpful open-source data available from the Environment Agency. We're indebted to all our partners, without whom this report wouldn't exist.

It's important to note that many of the numbers in the report will not have changed dramatically from the 2021 report. That's because flood risk across Britain doesn't change quickly. Changes to our climate unfold over decades and centuries rather than year to year. As a result, the changes in this document compared to the 2021 report more likely reflect human factors. The main culprits of which are improvements to the flood modelling and other data, urbanisation and installation (or decommissioning) of flood defences.

What we did:

- identified buildings in Britain classified as having commercial usage using OS data
- added flood risk data to find out the number of properties at risk of flooding
- reviewed the source of flood risk (river, surface water or coastal)
- compiled the results geographically, by sector and whether they'd have been affected by historic floods
- surveyed 500 financial decision makers either at risk of flooding, or worried about the risk of flooding and 200 insurance brokers to find out what they think

According to our data, there are over 1.6 million buildings in Britain categorised as having commercial use. As you might expect, this doesn't reflect the number of businesses. Some businesses use multiple properties, whilst others might share a premises. The report doesn't include residential properties used for commercial purposes (by landlords or as holiday lets), even though they aren't eligible for Flood Re. As a result, the following pages contain conservative estimates for the number of commercial properties at risk. In reality, the flood threat will be greater than what we present here.

Number of commercial properties in Britain

1,642,258

– the starting point for this report

The nationwide view

How many commercial properties are at risk?

Over 436,000 commercial properties in Britain have at least a low flood risk. That's 27% (over a quarter) of the total commercial properties. Of those with some level of flood risk, almost 300,000 (18% of the total) have what we would define as a moderate risk.

The cohort of properties at significant risk is over 236,000. That's 14% of the total properties, but also over half of the properties with any risk at all. In other words, if you have a flood risk at your business, it's more likely to be a moderate or significant risk than a low risk.

What does "no risk" mean:

If a property sits in a more than 1,000 year zone – we typically say it has no risk. That doesn't mean it will never flood though. "No risk" or more accurately "no modelled risk" talks about the theoretical view of the risk.

In reality, there is almost always a chance of flooding. There are many examples of properties that flood modellers characterised as no risk experiencing flood damage. Flood models and the understanding they bring are constantly evolving. So even if a property has "no risk" it is not advised to go without insurance.

Total properties
1,642,258 (100%)

Low risk
436,447 (26.6%)

Moderate risk
297,226 (18.1%)

Significant risk
236,121 (14.4%)



How we define risk



Significant risk

means a property is in a 75 year zone. In other words, these properties are likely to flood at least once every 75 years. If you consider the length of a mortgage could be 25+ years the chance of flooding during one year in lifetime of the business is roughly 1 in 3.



Moderate risk

means a property is in a 200 year zone. This might seem like a long time, but taken over a 20 year occupancy the chance of flooding in one of those 20 years is roughly 1 in 10.



Low risk

means a property is in a 1,000 year zone. Over an example 20 year occupancy the chance of the property experiencing a flood in one of those years is roughly 1 in 50.

Commercial vs. residential risk

According to [Aviva's 2020 flood report](#) 14% of UK properties are at risk from flooding*. Compare this to the 27% of commercial properties and business properties that are 2x more likely to be at risk from flooding. That's because coastal and riverside areas have historically been

attractive to businesses looking for water based power or transportation, whilst large, flat floodplains are attractive for bigger warehouses or sports grounds.

Business properties are 2x more likely to be at risk from flooding compared to the average property in Britain.*

Breakdown of peril

Understanding the source of flooding

Not all floods come from the same source. Natural floods can occur from river, surface water or coastal flooding. Here's a breakdown of where British commercial flood risk stems from.

Number of businesses at risk from:



Surface water flooding
346,719 (21.11%)

Surface water flooding or "flash flooding" is caused by the collection of intense localised rainfall and may occur in areas which are remote from any rivers or other sources of water.



River flooding
144,789 (8.82%)

River flooding happens when a river (or similar body of water) bursts its banks. This happens when more water runs through a river basin than usual and is often caused by intense storms or snow melt.



Coastal flooding
31,236 (1.9%)

Coastal flooding affects communities on Britain's coasts and is influenced by tidal surges, changes in sea level as well as intense storms. This type of flooding can happen very quickly and causes a lot of damage to property due to the salt in the water.

Out of sight out of mind?

Ignore surface water risks at your peril – it's the biggest flood threat to commercial property in the UK. It's also the easiest for businesses to brush off because the source of flooding isn't visible like river or coastal flooding.



Double jeopardy

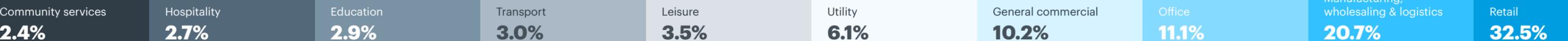
Eagle-eyed readers will have noticed that the numbers on the left add up to more than the total number of business properties at risk in the previous section. That's because a large number of commercial properties are at risk of flooding from more than one source. In fact, the number facing double jeopardy is roughly 20% of the UK commercial properties at risk. For those, getting the right mitigation strategies in place is even more important.

Breakdown of sectors

The top 10 sectors at risk

Our research has discovered that over half of the British commercial properties at risk are in the retail and industrial categories.

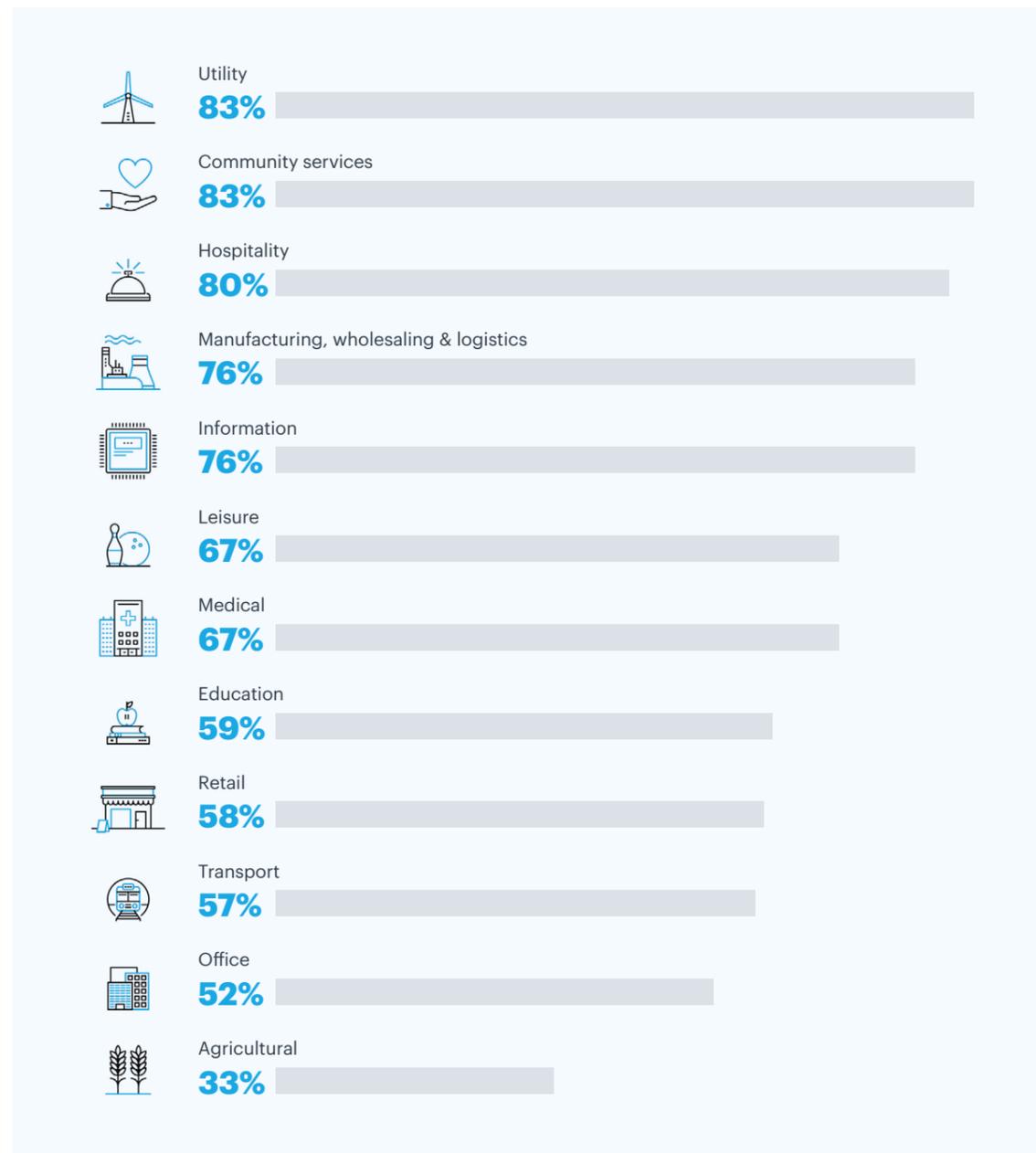
Retail and manufacturing businesses are most exposed by sheer number of properties at risk. Despite the risks, their insurance status is less certain. Of the businesses we surveyed, only 58% of retail businesses agree they have comprehensive insurance. That figure jumps up to 76% for manufacturing businesses suggesting that whilst the exposures are comparable, their attitude towards insurance (or their ability to buy it) changes between sectors.



Which sectors have comprehensive flood insurance

Having a risk is one thing, but how does each sector react to that risk? The chart below shows the proportion of businesses that we surveyed who agreed or strongly agreed with the statement: "My business has comprehensive flood insurance".

It is clear that agricultural businesses struggle more than any sector in Britain when it comes to securing flood insurance. What is perhaps most worrying though, is that Retail and Office-based businesses index highly in terms of the number at risk, but are both below 60% agreement with the comprehensive insurance statement.



We asked the businesses surveyed whether they agree with the following statement: I have comprehensive flood insurance. Here's the breakdown of those who agreed by sector.

Breakdown of location

Where businesses are at risk

Greater London has the highest number of commercial properties in the 200 year flood zone (41,946). West Yorkshire is the region with the second highest number (10,396) closely followed by the Greater Manchester area (10,011). Notably both the top two regions have faced recent flooding with thunderstorms causing advanced surface water flooding in London last summer and the Calder Valley in Yorkshire playing host to numerous floods over the last decade.

of business properties at risk. For example, 5 county areas in Britain have more than 30% of commercial properties within a 200 year flood zone. They are East Riding of Yorkshire (37%), Merthyr Tydfil (36%), Neath Port Talbot (34%), Newport (32%) and Conwy (31%).

At the other end of the spectrum the areas with the lowest proportion of commercial properties at risk are Midlothian (7%) and Aberdeenshire (9%).

Comparing numbers is not always the most helpful way to review the data. Each area has different numbers and densities of properties. To understand the differences across Britain it's better to look at the relative percentages



East Riding of Yorkshire has the highest percentage of commercial properties at risk in Britain (37%)

Which regions are most concerned about flooding

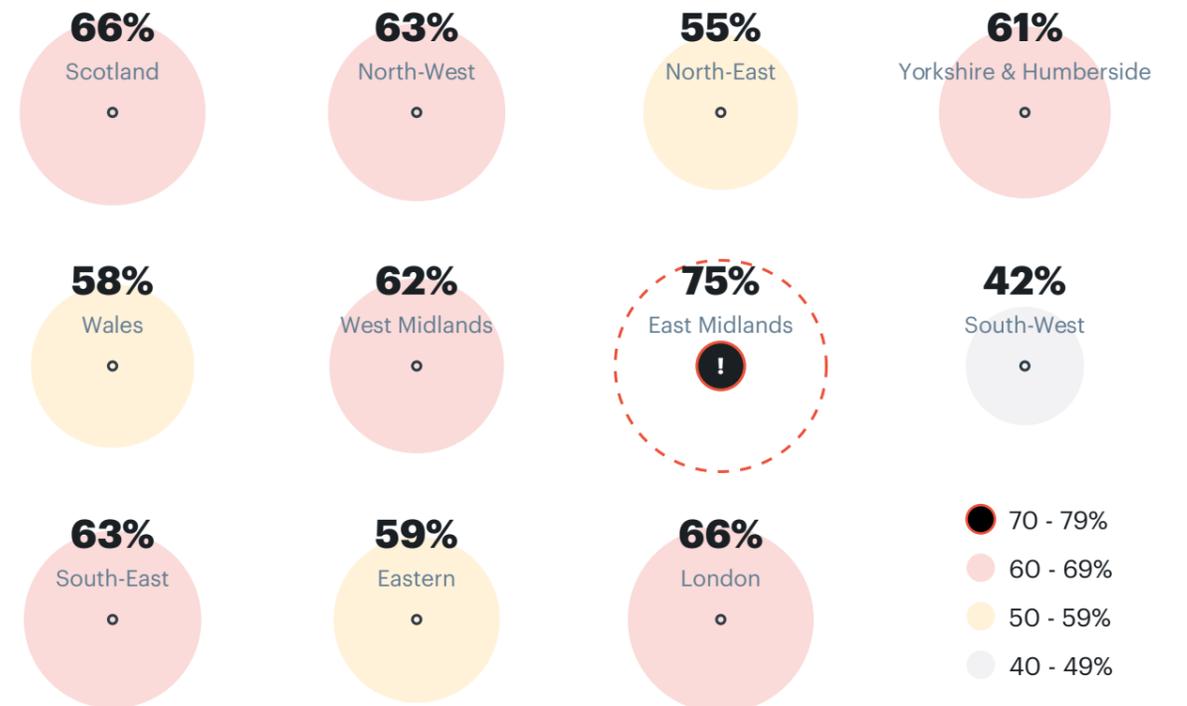
The East Midlands shows the highest rates of businesses that are worried about flooding. However there's only a 20% difference between the most and least worried area of Britain, suggesting British businesspeople tend to have the same level of concern when it comes to the threat of flooding.

Here's how they answered whether they agree that they "worry about flooding as a threat to their business continuity":

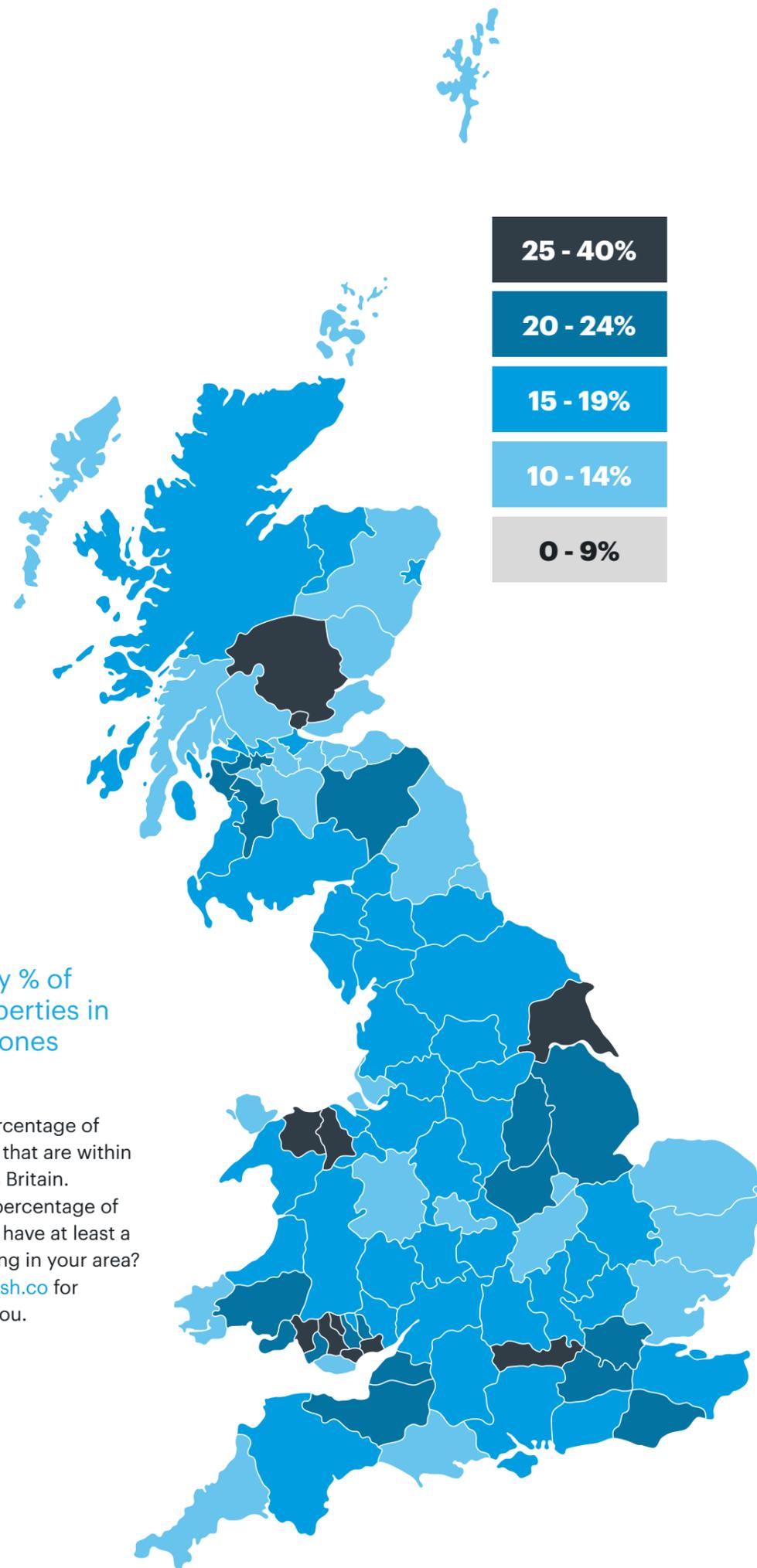
Supply chain concerns

Supply chains have been under huge pressure in recent years. That pressure has translated into concern around the impacts of flooding on the commercial ecosystem. 69% of the businesses we surveyed agreed with the following statement: "I am concerned about the impact that flooding might have on our commercial partners and/or supply chain"

% of businesses surveyed that agreed they are concerned about flooding as a risk to their business



69% of businesses surveyed are concerned about the impact of flooding on supply chains.



British regions by % of commercial properties in 200 year flood zones

The map shows the percentage of commercial properties that are within a 200 year zone across Britain. Want to find out what percentage of commercial properties have at least a moderate risk of flooding in your area? Contact chris@floodflash.co for specific insights near you.

What businesses think

Do business owners know their risk?



Our data suggests that British businesses are under serious threat. Are they aware of the threat though? Confidence levels are high, with 75% of businesses surveyed claiming they are fully aware of the risk at their property.

It's encouraging to see that businesses are engaging with their risk levels (only 3% were not aware). Our data suggests that there is a discrepancy between the perceived and actual risk amongst British businesses though. The chart below shows how:

Risk level	Businesses surveyed	Flood modelling data
Significant	8%	14%
Moderate	41%	4%
Low	35%	9%
None	15%	73%

The difference between the perceived and actual risk is interesting. At the moderate and low risk levels, businesses characterise their risk very conservatively with 41% claiming they are at moderate risk when in reality only 4% are. At significant risk levels, the tables turn though with more businesses at risk than identify with that level of risk.

This observation requires more research and will no doubt be the focus of subsequent reports. Initial reasoning suggests there are various possible causes for the mismatch. At higher levels of risk, businesses may be unwilling to face the facts - a cognitive bias known as the ostrich effect. At lower levels, businesses may be more conservative (particularly when filling out a survey with insurance questions).

We anticipate the biggest driving factor for the discrepancy to be an incomplete understanding of what "moderate" and "low" risk means. Closing that knowledge gap amongst business decision makers is hugely important if we stand to make any headway in closing the protection gap.

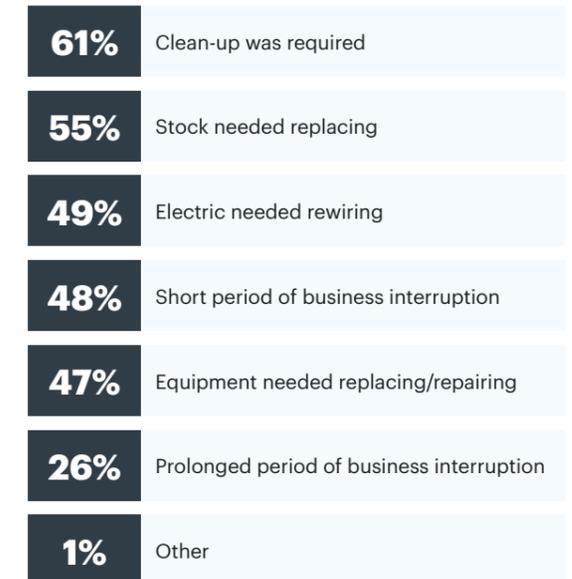
The impact of flooding and what British business are doing about it

This section explores the impact of recent flood on British businesses. We also explore what businesses are doing to mitigate their risks, as well as their openness to tech-based insurance options. Here's what they had to say.

The impact of recent floods on UK businesses

We asked businesses that have flooded recently what were the main costs they incurred.

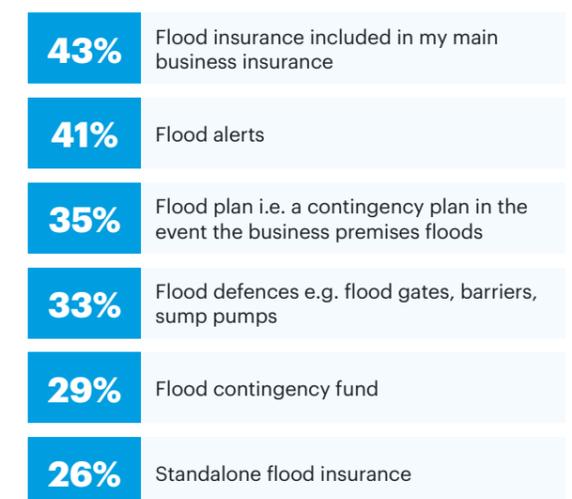
Businesses need to consider what they need to recover when thinking about mitigation measures. Over 50% of businesses that flooded recently needed extensive cleanup and/or stock replacement. Over a quarter (26%) needed support for prolonged business interruption - something often excluded in insurance policies.



What businesses are doing to prepare for flooding

We asked what are businesses doing to prepare for flooding.

Most of the businesses we spoke to have some form of preparation in place. Only 8% claimed to have no measures to mitigate flooding. Businesses also agree that they are open to technology if correctly applied - with 80% of respondents agreeing that they would use technology-based insurance if it made the product better.



British commercial attitudes to flood insurance

Flood cover is hard to come by

We asked business owners whether they agreed with the following statement: "It's difficult to get affordable flood cover for my business property". Here's what they said.

Despite the difficulties outlined above, just 13% of the businesses surveyed said that they didn't have comprehensive flood insurance. That suggests that they and their brokers are working very hard to cover any exposures they may have.



Flood threatens our business continuity

We touched on the issue of business continuity in an earlier section. When asked if they agree with this statement: I worry about flooding as a potential threat to my business continuity, here's what they had to say.

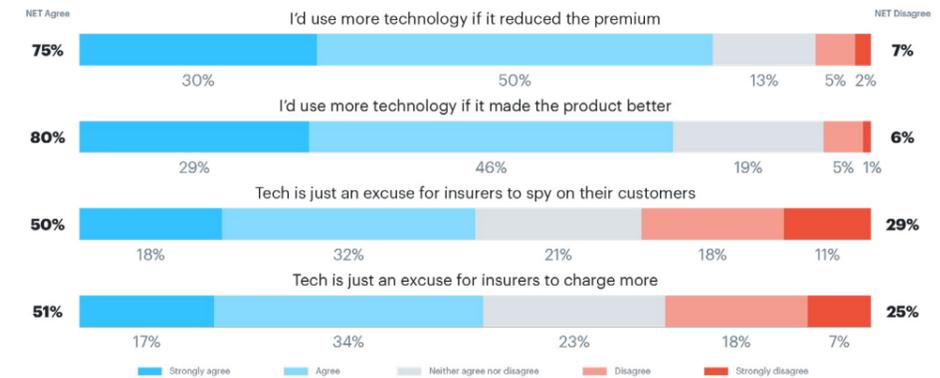
Whilst business continuity is clearly an issue when it comes to flood, unfortunately cover levels aren't in line with the perceived need. Only 42% of the businesses surveyed claimed to have business interruption insurance. With the pressures from the COVID-19 business interruption cases, this specific cover may become even harder to obtain in the coming years.



Only 42% of the businesses surveyed claimed to have business interruption insurance.

Attitudes to insurance technology

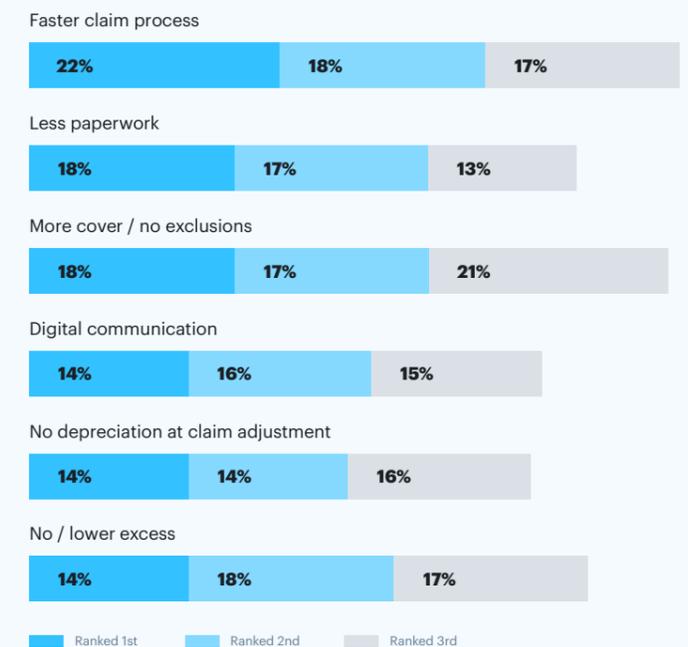
Finally we looked to understand whether SMEs are ready for tech-based insurance.



Almost 8 in 10 would use more technology if it reduced the premium

Speed and simplicity are at the top of the shopping list

One of our final questions to the panel of British businesses was what improvements they would most like to see to their flood insurance. Faster claims and less paperwork were clear winners – although cover and communication issues also represent key areas of improvement.



Case studies

2021 floods in focus

Floods happen in villages, towns and cities – not in maps and models. Last year was no exception, with devastating floods across the country. Here we explore a sample of that flooding to bring the theory to life and explore scenarios that had a massive impact on people's lives.

For an expert view on the causes and impacts of recent floods around the world, visit [JBA's website](#).

River flooding in Northwich

Storm Christoph caused havoc across the UK towards the end of January last year. Strong winds, intense rain and snow battered the Western part of the country – having the greatest impact in Wales and Northern England.

Several areas experienced 100% of the average January rainfall in the space of just a few days. Northwich in Cheshire was hit particularly hard. According to [riverlevels.uk](#) the river Weaver that runs alongside Northwich fluctuates between 0.5m and 1.5m. In January it reached 3.5m.

It wasn't just a swelling river causing a threat, surface water flooding was also starting to accumulate. In the end over 35 commercial properties flooded, including those on the riverside and the main high street.



When you're being flooded, it's an awful feeling. It isn't so much the money, it's the feeling that you're out of control."

— FloodFlash client Clive Steggel whose brokerage CRS Consultants was paid within 48 hours.

Flash flooding in London

Short, sharp bursts of intense rainfall hit the South of England during July last year. Whilst it may have seemed like harmless summer showers to some, the amount of water inundating England's capital was massive, causing extensive flash flooding.

Nearly 76mm of rain fell in 90-minute period on the 12th of July. Five days later a similar amount fell in another 90-minute time span. Later in the month there was yet more rain, compounding problems for the waterlogged city.

The impact was immense. Several tube stations and two hospitals were closed down with 100 patients evacuated from Whipps Cross hospital. Aggregate insured losses are expected to be in excess of £100m.



The scale of the damage is in part caused by high property prices and large numbers of properties that have a basement and high levels of impermeable surfaces. JBA's retrospective on the event also highlights that ageing drainage systems mean the capital is more susceptible to surface water flooding. According to the Mayor of London Assembly, the inner London Victorian drainage system was designed for a city of four million, but now has to service nine million. The network is at 80 per cent capacity even in dry weather so has limited capability in times of high rainfall.

Over 1 in 4 of those who have flooded in the past 10 years experienced a prolonged period of business interruption.



What you can do about flooding

5 steps to flood prep your business

Of businesses surveyed, 73% worry about flooding as a threat to the UK economy. But there are options to protect against that threat. There are some simple steps you can make to take responsibility for your risk, many of which don't cost a thing.

1**Research the flood risk for your business:**

A search on the gov.uk site is a good place to start if you want more information. A flood risk assessment can also give a more specific view for your property.

2**Register for flood warnings:**

Sign up for the government's free service online. Get email or text alerts sent whenever your business is threatened by flooding.

3**Create a flood plan:**

Planning what stock or equipment you need to move, and who within your organisation is responsible for moving it, is a great way to limit the impact of a flood. The Environment Agency has some great tips on how to create a flood plan.

4**Establish what resilience measures you might benefit from:**

If you find out that you have high risk and can't move important commercial assets, it's time to think about resilience measures. Many companies that provide these services offer free surveys to establish what you might need. Need a recommendation? Just get in touch with enquiries@floodflash.co.

5**Get insurance cover:**

it might seem obvious, but many businesses still have large excesses or go without cover entirely. FloodFlash pays claims in hours and provides quotes regardless of your flood history. Talk to your broker or visit www.floodflash.co to get started.

Protecting your property A spotlight on resilience

We asked the experts at M3Floodtec.com for their starters guide to business property resilience. Thanks to Neil Fisher and the whole team at M3Floodtec. You can find out more about them and all our partners on the FloodFlash website.

Incorporating Property Flood Resilience (PFR) measures into your business continuity strategy is an important part of a business's response to existing and predicted flood risk.

PFR measures works in harmony with FloodFlash insurance policies and enables businesses to:

- reduce flood damage
- reduce financial losses / limit risk
- speed up recovery/reoccupation – start trading quicker post flood
- limit damage to property, equipment, and stock
- provide a good image of a responsible, climate aware business
- reduce the trauma to owners, occupiers, staff, and customers

The different types of Property Flood Resilience measures include:

Resistance Measures

Flood resistance measures are designed to stop or limit the amount of flood water that can enter your property, preventing or reducing the amount of damage that flood water can do to your business. It also gives you more time to implement your flood plan, including getting you, your employees, and valuables to a safe place.

Resistance measures include:

- Anti-flood airbricks
- Flood doors / barriers
- Fire and flood steel doors
- Self-activating barriers
- Flood and storm gates / walls
- Flood windows
- Non-return valves
- Tanking

Recoverability Measures

Recoverability measures are designed so that in the event of flood water entering your property, the recovery time is minimised. This is typically achieved by installing products with low water penetration rates. Flood water removal and the relocation of vulnerable services are other examples of steps that can be taken to reduce permanent damage to your business and get you back into the property as quickly as possible.

Recoverability measures include:

- Water resilient internal materials
- Raised electrics / gas / utilities
- Sump pumps
- Raised machinery / stock storage etc.
- Flood Plan to include evacuation strategy & relocating valuables / critical equipment where possible

Resilience case studies

Installing PFR measures can dramatically change the exposure for any commercial property. Businesses that have installed PFR can also select FloodFlash policies that work with the measures to save on premium. Here are some examples of PFR in action.

Strutt Hairdressing



Maintaining business continuity is fundamental in the success of any operation so when flooding occurs, regardless of the reason, having adequate flood protection and resilience is at the top of the list in maintaining operations.

Ageing wooden windows and a tired rear door were replaced with a flood resistant front façade with antiflood door in black external and white internal, whilst the rear door and screen were replaced with a new white UPVC Flood Defender door and panel screen with Georgian wire panel and top lights.

Bursledon Motors



The picture shows the flood barrier in action, successfully resisting a recent flood event.

Keeping access open to a busy car sales forecourt is essential for the public to access the vehicles. Unfortunately, the site is prone to surface water flooding, so the client needed a fast deployable solution to stop surface water inundation whilst also having something that looked visually appealing.

M3 Floodtec designed, manufactured, and installed a set of twin leaf timber flood gates 6.3m wide x 0.64m high across the main forecourt area. Capable of being closed in seconds the gates are manufactured from sustainable Accoya also provide an extra means of securing the forecourt when the garage is closed.

The Highest Industry Standards

Delivering effective flood resilience requires a precise process and the highest standards. CIRIA's Code of Practice has been introduced and implemented by the Flood Sector to standardise the professional delivery of PFR, and the new British Standard, BS 851188 ensures flood resistance products are tested to a globally recognised and respected standard. M3Floodtec

have implemented the Code of Practice, invested over £250k upgrading the M3Floodtec BSI approved Testing Facility, and successfully re-tested their product range to the new British Standard.

Whoever you use for your PFR, it's hugely important to make sure that they follow the professional standards set out above.

Tel: 44 01905 676 467
sales@m3floodtec.com



Closing remarks

Events like the floods that occurred in Northwich and London are a pertinent reminder of the ongoing threat from extreme weather. Those floods also remind us that no-one should rely on the efforts of DEFRA or the Environment Agency to provide full protection. After all, both Northwich and London have had huge amounts spent on flood defences over the years and yet many homes and businesses were damaged.

Average global flood losses have never been greater. In spite of that, or perhaps because of it, the means with which we can anticipate, mitigate and insure against flood risk are more sophisticated than ever.

Want to start your journey to better flood resilience? Email enquiries@floodflash.co and we'll do our best to help.



Dr Ian Bartholomew
FloodFlash Chief Science Officer



**“If FloodFlash
treat you like
they’ve treated
me, it will be the
best decision
you’ve made in
five years.”**

Martyn Gibbons
FloodFlash customer

 **FloodFlash**

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