

FLOOD PROTECTION



The New Retail Category



DAM EASY [®]
FLOOD BARRIERS
FLOOD PROTECTION MADE EASY

The Environmental Agency has predicted that there will be a ten-fold increase with risk of flooding over the next century.

- E.A.

2.2 million people are affected by flooding in South America per year. This number has increased four fold since 2004.

- U.N.



CONTENTS

1.0	Introduction	5
1.1	Overview of Flooding	6–7
1.2	Government Grants & Insurance for Flooding	8–9
1.3	Facts about Flood Risk	10
1.4	Types of Flooding	11
1.5	What is the Domestic Flood Protection Market?	12
1.6	Exploring the D.I.Y. and D.I.F.M. Home Flood Protection Market	13
1.7	Creating the Flood Protection Category	14
1.8	Domestic D.I.Y. Flood Resistance	15
1.9	Resistance Measures	16–17
2.0	Domestic D.I.F.M. Flood Resilience	18
2.1	How do Resistance and Resilience Products work in Retail?	19
2.2	Helping the Retail Customer	20
2.3	How Can We Help Educate the Retail Customer?	21
2.4	Home Safety Category	21
2.5	UK and European Flood Protection Market	22
2.6	US Flood Protection Market	23
2.7	Canadian Flood Protection Market	24
2.8	Australian & New Zealand Flood Protection Market	24
2.9	South American Flood Protection Market	25
3.0	African Flood Protection Market	25
3.1	Asian Flood Protection Market	26
3.2	Global Summary of Floods Increasing	26
3.3	Summary	27
3.4	Conclusion	27
3.5	References	27



FLOODING – A GLOBAL ISSUE

The UK are building **10,000** Homes per year on Flood Plains
– Financial Times



FLOODS ARE **THE #1 DISASTER** IN THE UNITED STATES



THE NUMBER OF HOMES IN FLOOD AFFECTED AREAS

UK

Over **5.5 million properties** in England and Wales are at risk of flooding from rivers, the sea or surface water, that is one in six homes – E.A.

USA

In the US **8.2 million households** are in flood zones that have 1% or greater chance of flooding – F.E.M.A

SOUTH AMERICA

2.2 million people are affected by flooding in South America per year. This number has increased four fold since 2004 – U.N.

AUSTRALIA/NEW ZEALAND

1.3 million homes have a flood risk rating in Australia and **200,000 homes** in New Zealand with annual costs of floods to house holds exceeds \$300 million – S.E.S

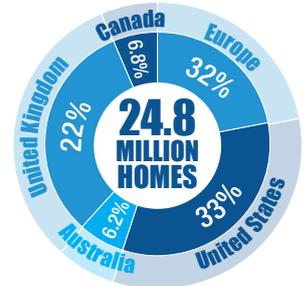
FLOOD RISK COSTS THE UK AROUND **£2.2 BILLION** EACH YEAR

CANADA

1.7 million Canadian households are at very high risk for flood and Canadians personally bear roughly **\$600 million** in flood related losses every year.

EUROPE

Based on reporting from 9 European countries Italy has the highest population living in flood affected areas **6.7 million people** 11% of the population, if you factored in a average for the European Union 6% across the European Union that would equated to **7.9 million homes** – E.E.A. A.W.I



FLOOD FACTS

YOU ARE MORE LIKELY TO BE FLOODED THAN BURGLED

– E.A. DEFRA



25%

OF N.F.I.P PAYOUTS IN THE U.S HAPPEN OUTSIDE FLOOD ZONES

11 inches OF WATER

can cause **\$25,000** of damage in your home

25%

OF FLOODING IN ENGLAND OCCURS OUTSIDE FORMALLY DESIGNATED FLOOD AREAS

TWO FORMS OF FLOOD PROTECTION

1/100 year measurement
Since the 100 year standard was adopted it has become universally used to describe flood protection level
– F.E.M.A.

- 1 RESISTANCE** (dry flood proofing)
"TO KEEP WATER OUT" e.g. Flood barriers, vent covers, toilet and shower blocks, pumps etc aim to limit flood water entry and damage caused
- 2 RESILIENCE** (wet flood proofing)
"LET WATER IN" this involves installing water proof materials e.g plasterboard, skirting etc and moving appliance above average flood levels.



1 in 6 PROPERTIES IN THE UK ARE AT RISK OF FLOODING

HOW BIG IS THE MARKET?

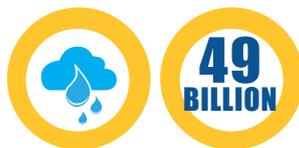
Simply put, if all homes highlighted to be in potential flood risk areas used the basic protection measures, this would be a multiplication of **24.8 million** homes x £2,000 basic recommended by the E.A. (Environmental Agency)

=£49 BILLION

On average **60%** of home owners do not realise they live in flood zones

RETAILERS SELLING FLOOD PRODUCTS

FULL SOLUTIONS	RENTAL	FLOOD PRODUCTS
0	0	6



6 TYPES OF FLOODS

- TIDAL:** From the sea or tidal rivers. Often sudden and extreme.
- FLASH:** In areas with steep slopes, heavy rain can cause a riverbed that held very little or no water at first, to suddenly brim with fast flowing water.
- URBAN/GROUND WATER:** This is surface-water flooding which will arrive when urban drainage systems are overwhelmed by sudden heavy rainfall, exacerbated by concreting over large areas of soil and gardens.
- FLUVIAL/RIVERINE:** On flood plains when a river breaks its banks due to rainfall, snow or ice melt exceeding the capacity of the water course.
- PLUVIAL:** This can happen in relatively flat areas when the ground is saturated beyond capacity and or when rainwater enters a water system and can't be stored.
- ICE JAM:** River ice breaks and jams in spring causing rivers to back up and flood.



Since 1985 the cost of insurance claims due to severe weather has increased x 15 times

15x

Worldwide in 2011, Natural Disasters caused



\$378 BILLION in economic losses

EDUCATION AND COMMUNICATION

Flood risk prevention strategy must be developed in each country through both retail and agency to provide **knowledge and know-how** to help the consumer to protect their homes

OF **2,300** CANADIANS SURVEYED, **ONLY 6%** KNOW THAT THEIR HOME IS LOCATED IN A DESIGNATED FLOOD RISK AREA

RECOMMENDED SPEND TO PROTECT YOUR HOME

According to the ABI to protect your property against shallow flash floods could cost between **£2,000 – £6,000**

– Association of British Insurers

FLOOD PROTECTION

The New Retail Category

Floods that have caused the most damage in Europe are those around 30cm in depth.



1. INTRODUCTION

With chronic under-investment and ongoing climate change the risk of serious flooding is increasing tenfold. Floods such as those seen in many countries across the world during the winter of 2015/16 and floods as recent as May 2017 have left devastation across many thousands of homes. The increase flood risk is the greatest threat from socio-economic development and climate change. The following report is part academic, part research and part practical and focuses on building knowledge to support the consumer.

The report is central to your industry and focuses on how you can support the consumer at risk or potential future risk. The purpose of this document is to help inform the retailer/ service provider to help the consumer at risk and promote a proactive approach as opposed to reactive as well as promoting flood resistant DIY measures to protect their own home or business.



“ The recent flood problems in the UK are adding to the evidence of worsening flood problems in Europe. ”

Beate Werner – Co author of E.E.A Report

3,500 flood events

in Europe between 1980-2010 affecting 27 countries

1.1 OVERVIEW OF FLOODING

Overall about £200 million additional investment from UK Government for flood protection was announced in 2015/16. Northern Ireland's Environment Minister Mark H. Durkan activated emergency payments of £1000 for householders effected by flooding.

Nicola Sturgeon, Scotland's First Minister, announced in January 2016 that every household or charity in Scotland directly affected by flooding would receive a grant of £1,500 she also said businesses whose trade was affected can also apply for an extra £3,000.

The European continent has also felt the devastating affect of flooding in the past year with countless floods in France, Germany, Italy, Spain to name but a few. 2016 saw scores of towns in Bavaria and central France suffer from heavy rain and flooding in June showing that flooding knows no season. The European Environment Agency published their report in January of this year. In the report they highlighted that there have been more than 3,500 major floods since 1980 and the trend is continuing upwards. In 2010 no fewer than 27 countries were affected by 321 major floods.

2016 was the year of the flood in the US with a total of 19 separate floods swamping the country, the most in one single year since records began in 1980. This is according to an analysis by Munich Re, the global reinsurance firm. The worst flood was in Louisiana where at least 13 people were killed and roughly 60,000 buildings were destroyed. Other major flood disasters included West Virginia, Houston, Texas and Maryland.

Flooding knows no season and flooding events are increasing on an annual basis.

- D.E.F.R.A.

“ 2016 was the year of the flood in the US. The US had more floods in 2016 than any other year on record. ”

USA TODAY

Canada have recently seen the devastating affects of flooding in Montreal with a state of emergency being declared in May 2017.

Australia experienced severe storms and flooding in 2016 with record breaking rainfall in South Australia. Victoria also felt the effects of the storms with flash flooding and inland flooding.

New Zealand suffered with torrential rain in October 2016 causing homes to be flooded across the Aucklands north shore. This was the worst flooding experienced in 14 years. According to the University of Waikato, NZ the relative mean sea level around New Zealand is rising at a rate of 1.6mm per year.

This year will see The EU Flood Directives report being completed. All EU member states must have drafted a Flood Risk Management Plan by end of 2015. In this plan they must set out the clear directive for flood planning and flood management and support. Reality is that flooding is now a common occurrence and is not subject to seasons or months. As both UK and EU directives come, online retail must now support this growing issue and provide products to support the defence against flooding.

As directives now come online retail must support the growing issue and supply products to protect against flooding

24 states
in the US experience at least one flood-related event to be declared a natural disaster

— F.E.M.A.

1.2 GOVERNMENT GRANTS AND INSURANCE FOR FLOOD PROTECTION

UK

Government support was available to local authorities to design local tailored support packages for householders and businesses impacted by floods.

As part of this, grants are available up to £5,000 (inc VAT) per property to fund measures which improve a property's resilience or resistance to damage from flooding. This is over and above the repairs that would normally be covered by insurance therefore the opportunity is there for retailers who operate in selling both resilient and resistant products to look at how grants can be claimed at source as per the renewable grant scheme. It would be beneficial and profitable for retailers to lobby in relation to this and to form partnerships and work with organisations like the **National Flood Forum**.

Flood Re, a scheme specifically for those who have been affected by flooding or are at risk, launched in April 2016. The scheme has been jointly set up by the insurance industry and the UK government and works through a £180 million tax on the insurance industry. This creates a subsidy for householders that should significantly reduce excess levels and give those in flood-risk areas access to affordable insurance cover.

Over 5.2 million properties in England and Wales are at risk of flooding from rivers, the sea or surface water. That's 1 in 6, which means there is a high chance one of these properties is your home or business according to the Environmental Agency.

25% of flooding in England occurs outside areas formally designated as flood plains.

- E.A. and D.E.F.R.A.

You are more likely to be flooded than burgled.

- E.A. and D.E.F.R.A.

Properties worth £220 billion are located within flood plains in England.

- Association of British Insurers

Northern Ireland

Overview of Flood Grant Scheme

The grant scheme is for homeowners in residential properties at risk of flooding. They can get help to install physical barriers and equipment to reduce the impact of flooding on their homes.

The products and services supported by the grant are:

- Door Barriers
- Air Brick Covers
- Non-return Drainage Outlets
- Waterproofing Walls

How much does the home owner receive?

The maximum grant is £10,000. The scheme pays 90% of the survey and estimated product and installation costs. The home owner pays 10% (plus any additional cost above £10,000).

4,600 homes in Northern Ireland are at risk of flooding and half have no proper protection against it.

- Claire McNeilly, Belfast Telegraph.

“ For every dollar spent on resiliency, you get \$4 in return. ”

- Carl Hedde, Head of Risk, Munich Re.

U.S

The **National Flood Insurance Program** aims to reduce the impact of flooding on private and public structures. It does so by providing affordable insurance to property owners and by encouraging communities to adopt and enforce floodplain management regulations. These efforts help mitigate the effects of flooding on new and improved structures. Overall, the program reduces the socio-economic impact of disasters by promoting the purchase and retention of general risk insurance, but also of flood insurance specifically.

This insurance is designed to provide an insurance alternative to disaster assistance to meet the escalating costs of repairing damage to buildings and their contents caused by floods. As of April 2010, the program insured about 5.5 million homes, the majority of which were in Texas and Florida.

Europe

Measuring the level of protection and grants on the European continent is far more difficult with post flooding payments being more the rule than the exception.

The European Union Solidarity Fund (EUSF) was set up to respond to major natural disasters and express European solidarity to disaster-stricken regions within Europe. The fund was created as a reaction to the severe floods in Central Europe in the summer of 2002. Since then, it has been used for 73 disasters covering a range of different catastrophic events including floods, forest fires, earthquakes, storms and drought. 24 different European countries have been supported so far for an amount of over €3.8 billion.

Annual flood losses can be expected to increase 5 fold in Europe by 2050 and up to 17 fold by 2080. The major share of this increase (70-90%) is estimated to be attributable to socio-economic development as the economic value of assets in floodplains increase and the remaining (10-30%) to climate change.

Only 6%
of homeowners know they
are in designated flood risk
areas in Canada.

- Canadian Voices on Changing Flood Risk

Canada

Since the devastating Alberta floods in 2013, 13 of the country's 15 largest insurers have started to offer overland flood insurance (according to the Insurance Bureau of Canada). This cover protects homeowners facing damages from water flowing above ground and seeping into the home but on the flip side this has seen the government cutting levels of government assistance.

Summary

Taking the limited grant aid and insurance coverage worldwide, the reality is that more and more homes are being affected and this is growing at an alarming rate on an annual basis. The focus must be on protecting your home. In the possibility of flooding occurring **BE PREPARED**, don't wait until after the flood to repair and then purchase resistance flood defence products.

It is estimated that
flooding costs Canadian
home owners
\$600 million
per annum.

- Canadian Voices on Changing Flood Risk



1.3 FACTS ABOUT FLOOD RISK

There are four facts about flooding that are of particular importance:

Flood depths expected at your house. Low depths, for example 100mm, are unlikely to put people at risk but water damage to buildings and contents may be significant without any flood protection. High water depths, for example 1m, may severely threaten the safety of people and may cause extensive damage to buildings. It may be dangerous to keep deep floods out of a building because of large weight of water pressing against the structure.

Flood duration is the time that flood water is expected to stay at your house. Temporary flood defences may successfully keep water out if flooding is expected to last for a few hours, whereas, long flood durations may give time for water to penetrate the building. It may be safe to take refuge and stay in a building for short duration floods but this will depend on other factors.

Flood onset is the time for flood water to reach your house from its source. Short onset flooding (flash floods) are particularly dangerous as there is little time available to get people to safety or protect buildings.

Flood annual probability is a measure of the chance of flooding to your house over the course of 1 year. Different approaches to flood protection may be needed depending upon how likely flooding is expected.

F.E.M.A. estimates that between 66% and 80% of flood losses and about 25% of N.F.I.P. payouts occur outside designated flood zones.

– F.E.M.A.

TOP TEN THINGS TO DO

TO PROTECT YOURSELF WHEN A FLOOD OCCURS:

- 1 Have an emergency plan and pack a 72-hour kit (including important documents).
- 2 Move valuables upstairs if possible and consider moving personal items that cant be replaced upstairs permanently.
- 3 Reach out to friends and neighbours to raise awareness and build a flood conscious community.
- 4 Keep up to date with media weather reports.
- 5 Stay away from flood waters and do not cross flowing water.
- 6 If possible send children and pets to friends or family in non flood affected areas during flood.
- 7 Avoid food or drink that has come in contact with flood water.
- 8 Do not drive in flood water as cars can be swept away in as little as 2 feet of water.
- 9 Have a flood risk plan and put into action.
- 10 Contact your insurance company immediately.



1.4 TYPES OF FLOODING



Tidal:
From the sea or tidal rivers. Often sudden and extreme.



Flash:
In areas with steep slopes, heavy rain can cause a riverbed that held very little or no water at first, to suddenly brim with fast flowing water.



Urban/Ground Water:
This is surface-water flooding which will arrive when urban drainage systems are overwhelmed by sudden heavy rainfall, exacerbated by concreting over large areas of soil and gardens.



Fluvial/Riverine:
On flood plains when a river breaks its banks due to rainfall, snow or ice melt exceeding the capacity of the water course.



Pluvial:
This can happen in relatively flat areas when the ground is saturated beyond capacity and or when rainwater enters a water system and can't be stored.



Ice Jam:
River ice breaks and jams in spring causing rivers to back up and flood.

In cases such as tidal and flash flooding, measures greater than protecting the structure of the home are required. Sea defence, permanent barriers and large scale drainage schemes are the first line of defence. Urban, fluvial, pluvial flooding can be defended with either home specific drainage works, structural changes and domestic flood defences.



3,062

43%

2,018

28%



562

8%



405

6%



387

5%



334

5%



251

4%



111

2%

- Flood
- Storm
- Earthquake
- Extreme Temperature
- Landslide
- Drought
- Wildfire
- Volcanic Activity

Increasing Frequency and Severity of Floods UNISDR / CRED

1.5 WHAT IS THE DOMESTIC FLOOD PROTECTION MARKET?



Currently there is no real definition of what the domestic flood protection market is. To date data does not exist to record total market turnover or even definition of what the market consists of. **The National Flood Forum** divides the market into two headings.

Resilience measures “let water in” this involves replacing materials in your home after flooding to e.g. tiled concrete floors, water resistant plaster, raised electrics, etc. These can be included as repairs and approved by insurer or loss adjuster.

Resistance measures “try to keep water out” e.g. flood barriers, self closing vent covers, toilet and shower blocks pumps, etc aim to limit floodwater entry and damage caused.

The U.S. Federal Emergency Management Agency (**F.E.M.A.**) defines the market into two headings and are closely aligned with the Environmental Agency (**E.A.**).

Wet flood-proofing: Making portions of your home resistant to flood damage and allowing water to enter during flooding.

Dry flood-proofing: Sealing your home to prevent floodwaters from entering.

So, to begin to understand the market we must consider if all markets the same. The simple answer is no, they require different treatments based on different materials. In the US many homes have the option to elevate from risk of flooding. Building materials vary and structures and regulations differ but the consistency we have in all markets is the protection terminology and description by both FEMA and the Environmental Agency (EA). **The one area that has consistency in product across all markets is the Resistance/ Dry flood-proofing market.**

67%

of UK respondents to a YouGov survey report said they never check the flood risk level of their home.

- You.Gov.Uk

1.6 EXPLORING D.I.Y. & D.I.F.M. HOME FLOOD PROTECTION

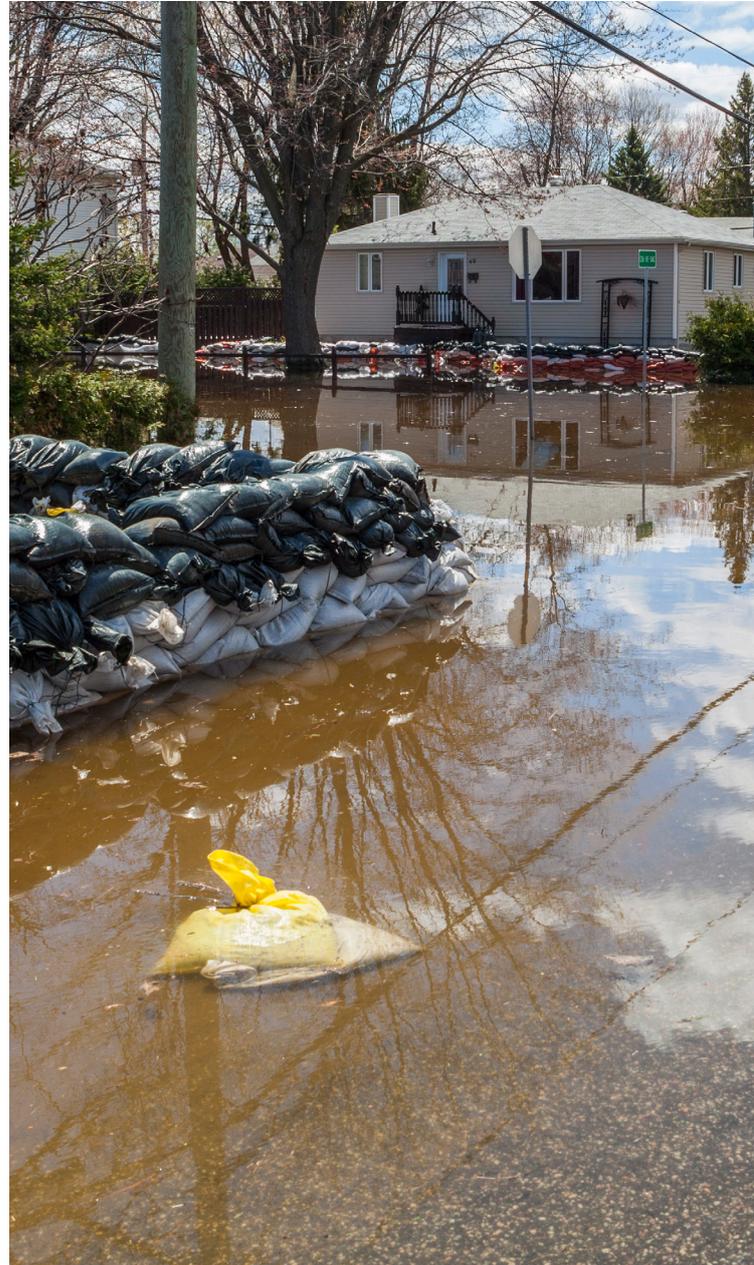
The definition of the domestic flood protection market is based on All Weather Industries' (AWI) assumption of what the flood resistance market should be after researching global trends and products. AWI have finally developed what we call a "Flood Protection Category". As consumers we are happy to invest in home protection products such as smoke alarms, fire extinguishers and house alarms to protect ourselves against fires or theft but if we live in a flood affected area whether low or high risk do we take the same measures to protect ourselves from flooding? Reality is that many of the measures to protect our homes can be done easily and by the consumer. In this definition the category is split into two areas as follows:

1. **"DO IT YOURSELF" home flood protection (DIY).**
2. **"DO IT FOR ME" home flood protection (DIFM).**

Both sub categories/ products of flood protection can be carried both online and in-store and lend well to retail but they very much differentiate between easy self-help (as defined by AWI) and tradesman required. The issue with the flood protection market today is that most products are "made to measure" and require either permanent or temporary fittings.

Cost of damage to property as a result of flood can be great. Repairing a house after a flood can cost between £10k – £15k depending on the flood depth.

– D.E.F.R.A. (Department of Food & Rural Affairs, UK.)



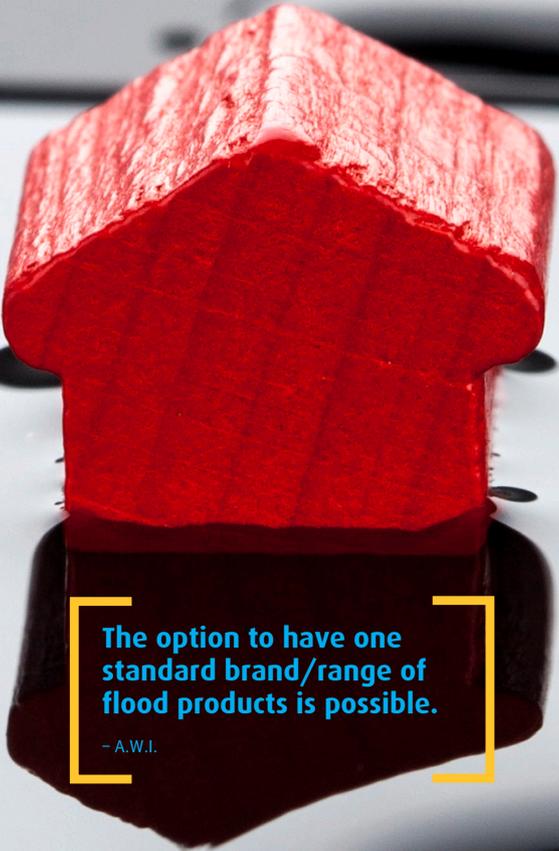
1.7 CREATING THE FLOOD PROTECTION CATEGORY

In understanding DIY flood protection one must understand standard flood points in homes. These will vary slightly from country to country but the option to have a standard range is possible. A purchase for protecting your home can not stop with 1 product as the number of possible flood points in your home can average at **10**. Education and understanding plus truly easy to install products could allow the consumer to protect their home easily.

The key for development of the flood protection category is removing what we call the “dark art” of protecting your home. The resilience market (DIFM) is clearly a trade market with trade products and services but the resistance market (DIY) can be developed with products that can be installed permanently or temporarily by the home or business owner.

The resistance market (DIY) must be built on the foundation of information and “how to protect your home”, focusing on consumer awareness of flood points in your home and business. For any retailer, the key is developing or working with a brand known first and only for flood protection. A developed brand developed will define the category on ease of use and most important quality of product. Currently there is no known brand for flood protection within the resistance market.

The resistance category (DIY) must carry products to cover the basic resistance measures recommended by the EA, FEMA and European Union (EU). They must be easy to install and use and easily available with a clear brand recognition in store. The brand must give the confidence of quality and protection, **EASE OF USE AND WHERE REQUIRED REUSABLE.**



The option to have one standard brand/range of flood products is possible.

- A.W.I.

“ Everyone has a part to play to reduce flood risk and homeowners in flood risk areas should know the risks and what action they can take. ”

- Sir James Bevan, CEO Environment Agency.

Resistance/Dry flood proofing is applicable to all markets globally. »

The resistance product range needs to have quality and simple to install products.

- A.W.I.

TWO TYPES OF FLOOD MANAGEMENT

RESISTANCE MEASURES

Preventing water from entering

RESILIENCE MEASURES

Allowing water to enter but protecting using water resistant products and materials

1.8 DOMESTIC D.I.Y. FLOOD RESISTANCE

RESISTANCE MEASURES DIY/ FLASHFLOODING/ DRY FLOOD PROOFING £2-£6k cost to implement

Doorways: Each doorway must be protected by a dam at the reveal (structural surround around the door frame). Doorways can vary from 700mm to feature doors 2500mm plus.

Airbricks: Come in single and double sizes. These are located normally either above or just below the damp proof course (DPC). The standard number of air bricks is 1 to every meter but vary from build and age of house.

Low level windows: Windows to ground or sitting below 700mm from the ground are regarded as low level. As these windows can vary from feature windows to windows protecting can be difficult and sealant or water proof taping is suggested.

Downstairs toilet: During flooding water can back up through sewage systems. Toilet pan seals or bladders are suggested to dam the u-bend.

Downstairs shower or bath: Flood water can back up through the waste system. Shower and bath plugs either push fit or pressure release are recommended.

Overflow kitchen pipes: Can be 1 to 2mm opening around the pipe and expanding foam or water-tight patches area recommended.

Services boxes and cable or satellite points: There can be a 1 to 2mm opening left on the surround and must be filled with either expanding foam or adhesive watertight patches.

Kitchen and bathroom sinks: As per shower and bath fittings recommendations.

1.9 RESISTANCE MEASURES



Extension Pole

For use with the Dam Easy® Flood Barrier



The Dam Easy® Extension Pole allows the use of multiple barriers covering openings from 1660mm to widths beyond 3000mm.

Install Time
2 MINS

WATCH THE VIDEO
PLEASE SCAN QR CODE

Base socket installation in ground required before Extension Pole can be fixed in place.



Patch It

Prevents flood water entering exterior openings



A rubber based high performance strip sealant used to patch external openings susceptible to water entering during flooding.

Install Time
3 MINS

WATCH THE VIDEO
PLEASE SCAN QR CODE



Security Cover

For use with the Dam Easy® Flood Barrier



Security cover is available to purchase for added security, to prevent tampering and removal of the barrier.

Install Time
1 MIN

WATCH THE VIDEO
PLEASE SCAN QR CODE



Vent Cover Snorkelvent™ 310mm & 450mm

A Snorkel for your home
The most effective and simple solution available



Snorkel Vent™ is a simple, affordable and effective device to give you permanent flood protection, without having to close a flap or fit a cover.

Install Time
5 MINS

WATCH THE VIDEO
PLEASE SCAN QR CODE



Seal It

Silicone Sealant & Adhesive

High performance sealant to create a watertight seal preventing flood water entering property through exterior openings.



HydroSack® Sandless bag solution for temporary protection against low level flooding



The HydroSack® is a highly effective, modern method to create a barrier to the threat of flood water in domestic and commercial properties. Each HydroSack® unit absorbs up to 20 litres of water. HydroSack® is activated with fresh water (not salt water). The design of HydroSack® allows a controlled spread over the 3 sections which prevents the contents from moving from side to side, this versatile design will fit into openings and door wells.

Install Time
3 MINS

WATCH THE VIDEO
PLEASE SCAN QR CODE



Dam Easy® Flood Barrier

Protection for exterior openings from flood water up to 600mm high



The Dam Easy® Flood Barrier is a unique domestic and commercial flood barrier which creates a watertight seal around the door when installed. Suitable for fitting within smooth door reveals from 780mm to 1100mm.

Install Time
5 MINS

WATCH THE VIDEO
PLEASE SCAN QR CODE

HydroPack®

Sandless bag solution for temporary protection against low level flooding



The **HydroPack®** is a highly effective, modern method to create a barrier to the threat of flood water in domestic and commercial properties. Each unit absorbs up to 15 litres of water. **HydroPack®** is activated with fresh water (not salt water). The design of the **HydroPack®** is a direct replacement for sandbags and can be built up to create a free standing barrier to stop or restrict flowing water.



LEVELS OF FLOODING



Below 2 in/50mm



Above 2 in/50mm & Below 27.5in /700mm



WATCH THE VIDEO
PLEASE SCAN QR CODE



HydroSnake®

Sandless bag solution for temporary protection against low level flooding



The **HydroSnake®** is a highly effective, modern method to create a barrier to the threat of flood water in domestic and commercial properties. Each **HydroSnake®** unit absorbs up to 20 litres of water. **HydroSnake®** is activated with fresh water (not salt water). This versatile design of the **HydroSnake®** measuring 120 cm in length can be spread across open areas to divert any flow of water.



WATCH THE VIDEO
PLEASE SCAN QR CODE



Shower Stack

Protection for downstairs shower and baths during flooding



The **Dam Easy® Shower Stack** protects downstairs Showers or Baths from flood ingress through the waste pipes.



WATCH THE VIDEO
PLEASE SCAN QR CODE



Replacement Seal

For use with the Dam Easy® Flood Barrier

We recommend that the inflatable seal is replaced after use or every 12 months.



WATCH THE VIDEO
PLEASE SCAN QR CODE



**THE WORLDS FIRST
OFF-THE-SHELF FLOOD DEFENCE
SYSTEM WITHOUT FIXINGS
& WITH AN INFLATABLE SEAL
(PATENTED)**

Toilet Dam

Prevents water rising through toilets during flooding
(Suitable for most makes and models)

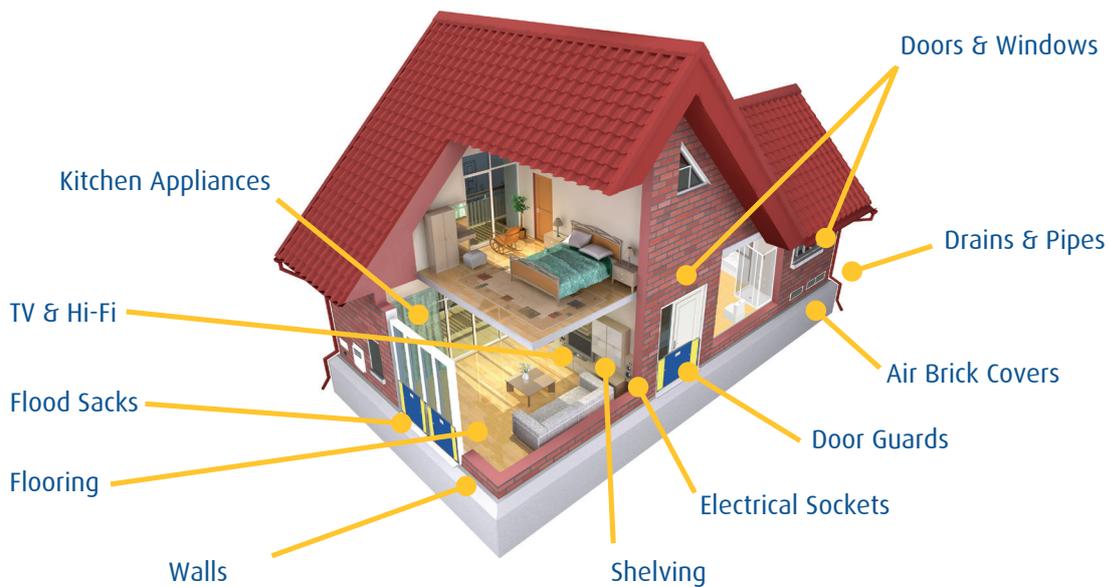


The **Dam Easy® Toilet Dam** is an effective tool for blocking any width or shape of toilet pan against sewage backflow during a flood.



WATCH THE VIDEO
PLEASE SCAN QR CODE





2.0 DOMESTIC D.I.F.M FLOOD RESILIENCE

MEASURES D.I.F.M/ PROLONGED FLOODING / WET FLOOD PROOFING £20-40k to Implement

Walls and floors: Raise damp-proof brick courses. Sealing floors ('tanking') can prevent water rising through the ground.

Drains and pipes: Fit non-return valves to drains and water inlet and outlet pipes but accept that flood water might get in.

Home entertainment: Fix your audio-visual equipment e.g. your TV to a wall mount 1.5 metres above floor level.

Skirting: Fit water-resistant skirting boards, or varnish them.

Pump: Fit a pump in a basement or under-floor void to extract flood water.

Walls: Dry-line, use horizontal plasterboard, or lime based plaster instead of gypsum. Get a special draining system for cavity walls.

Doors and windows: Install synthetic or waxed windows and doors, or varnish them.

Flooring: Lay tiles with rugs rather than fitted carpets, which often need to be replaced after a flood.

Kitchen and bathroom: Use water-resistant materials such as stainless steel, plastic or solid wood rather than chipboard. Where possible raise fridges and appliances on plinths.

Electricals: Raise electrical sockets, fuse boxes, controls and wiring to at least 1.5 metres above floor level. If retiring, bring cables down the wall to the raised socket so the cabling isn't affected.

Resilience products should be labelled in store as water resistant ie. plasterboard, skirting, flooring etc.

- A.W.I.



2.1 HOW DO RESISTANCE AND RESILIENCE PRODUCTS WORK IN RETAIL?

Unless we take different measures
5 million people
in Europe will be exposed to coastal
flooding on an annual basis.

– Prof. Michalis Voodoukas, Joint European
Research Centre (J.E.R.C.)



The resilience market can be supplied by retail but only elements of the market. On the other hand the resistance market has a home in retail and with the right product range and right products, retailers can fully supply the consumers' resistance needs through products such as:

- Door flood barriers
- Air brick vent covers
- Patching for external openings
- Toilet blocking
- Shower and bath plugs
- Sink plugs
- Sealants
- Pumps

These products should be available for the consumer in an easy form that can be implemented either on warning or as part of ongoing flood maintenance management for your home. The key is for the retailer to educate, advise and supply the right products for the consumer and insuring the consumer has a "household flood plan". The importance of protecting your home from flooding is as important as protecting your home from fire or theft.

Resilience market can be supplied by retail for certain products. On the other hand all resistance products can be supplied fully by retail.

– A.W.I.

2.2 HELPING THE RETAIL CUSTOMER

Knowing the level of risk is important for the consumer to make a educated decision on whether or not they want to protect their property. Agency mapping is vital to 'my floodrisk knowledge' although 25% of flooding happens outside designated flood zones.

4 key local questions:

1. Has the area been flooded before?
2. Have any of my neighbours installed any form of flood protection?
3. Have I reviewed the agency flood mapping for the area?
4. If there is a significant risk of flooding and what type?

Now that the customer understands the level of risk of flooding in their home or business, this will direct them to the relevant products or services required. A 'resilience customer' will understand as they will more than likely have been flooded before and will require water resistant materials and a qualified installer to fit (unless a very handy DIYer). The 'resistance customer' will need knowledge and education through in-store communication and service and also online information on what they need and how they they can protect their home.

Knowledge and product:

1. Has the customer surveyed their home to understand all flood access points (online or in store home audit pamphlet)?
2. Can the consumer buy all the resistance products they need in one store or one retail brand either online or in-store?
3. Is the customer confident that either they or a member of their household can install and use the products (simple easy to use products are available in many different brands)?
4. Does the customer have all the information they need either in-store or online?
5. Does the customer know who to contact for support?
6. Does the customer know how to store the products and maintain after use?
7. Does the customer have any emergency flood plan (this can be supplied by the retailer)?

The key for retail is to educate, advise and supply.



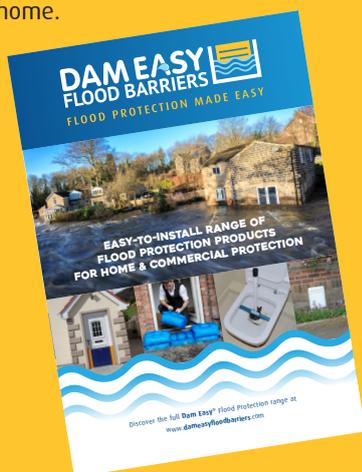
“ Less than 40% of those at significant risk are aware of their risk. ”
 – National Flood Forum.



2.3 HOW CAN WE HELP AND EDUCATE THE CUSTOMER?

Know your territory or country, have a dedicated colleague at head office level who can update on national flood mapping and inform both in stores and online. Have local knowledge and network, feeding back on local flooding events and warnings highlighted online and in flood plain stores. Flood communication plans include:

1. Home self audits (provided by the retailer)
2. Home flood emergency plan (provided by retailer)
3. How to guides
4. Effective P.O.S on products
5. Simple online and in store brochure on how to protect your home.



Product Knowledge

Understanding the historic issues of flooding locally will direct stores to the type of flood products that they should carry. They should ensure that they have full availability of all products which include:

1. Resilience products that have a waterproof label
2. Resistance products should be merchandised together as a resistance range and as a complete home protection solution
3. Resistance products that should be easy to use and potential for self install (remove the dark art)
4. Provision of simple information and advice.

If you don't know you are at risk then how can you make an informed decision to protect your home.

2.4 HOME SAFETY CATEGORY

The question is always “where do you stock flood protection products?” The answer is not necessarily the where but how do you define protecting your home to the customer and in our view is it through developing the Home Safety category. Home Safety focuses on all elements and risks that can affect the customers home Fire/Gases/Flood/Burglary/Child Safety. The key is having easy to install and easy to use products and the overall focus is again on educating and informing.



2.5 UK AND EUROPEAN FLOOD PROTECTION MARKET

According to the Environmental Agency (EA) and Association of British Insurers (ABI) "Prepare Your Property for Flooding: A Guide for Householders and Small Businesses" the following is a guide for costs incurred by properties:

Flash floods: To protect against shallow flash floods could cost between £2,000 and £6,000.

Prolonged flooding: To keep water out during periods of prolonged flooding will take bigger changes and could cost between £20,000 and £40,000.

With 5.2 million properties at risk in England and Wales alone if each property was to spend £2,000 to implement basic prevention requirements recommended by the EA that would estimate the market around **£10 billion**. Multiply this across Europe and the number of households affected as well as the rest of the UK. The market could exceed **£28 billion** for basic measures to be implemented.

The Resistance market in the UK and Europe at its basic could exceed **£28 billion.**

– Based on the UK known and a 6% European average.



Based on reporting from nine countries across Europe, report maps show the population living in floodplain areas. Italy has the largest prone areas with **6.7 million people** or 11% of the population.

– European Environmental Agency

“ Around 25,000 coastal properties are at risk in Ireland plus 45,000 homes threatened by fluvial flooding. ”

– Office of Public Works, Ireland.

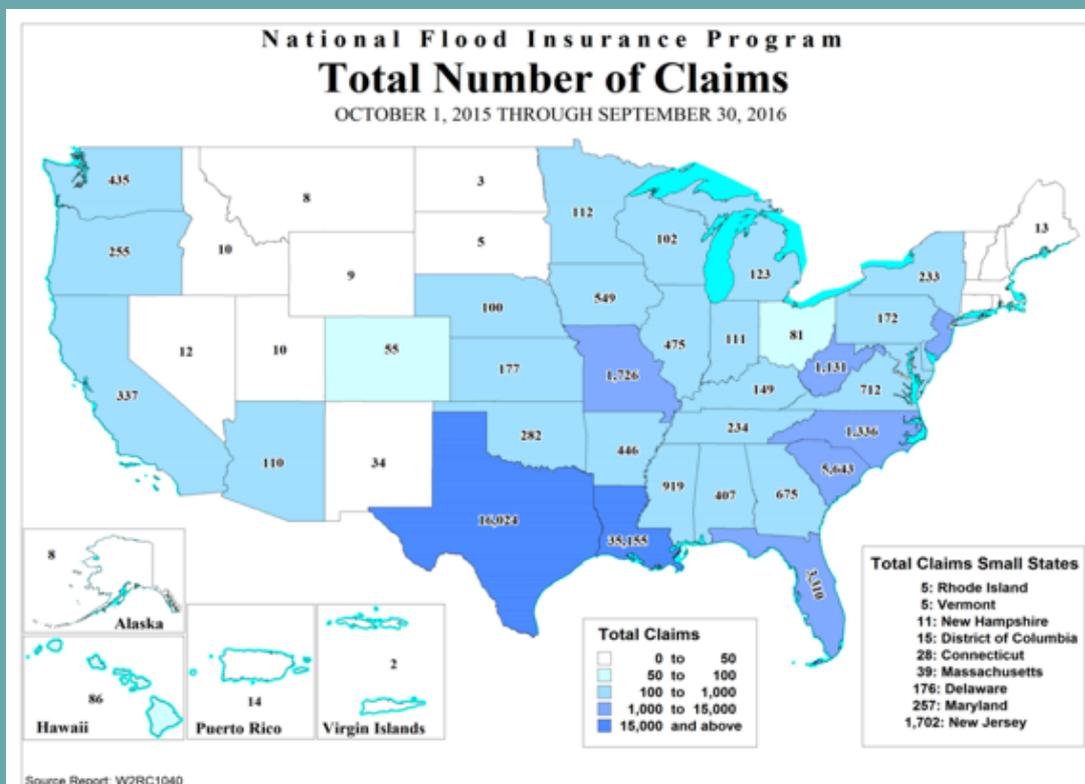
2.6 US FLOOD PROTECTION MARKET

According to FEMA about 8,651,000 people, or slightly more than 3% of the total US population, live in 1% annual chance coastal flood hazard area. About 24,662,000 people or 8.6% of the population live in census block groups that border the open ocean coastal or that contain 1% chance coastal flood hazard areas.

If you take the above into account and apply the basic lowest resistance measures of £2000 at a population with a 1% effect of flooding which is 30,000,000 people, this would make a potential market of **£17 billion/ \$21.5 billion**.

39% of US population live in counties subject to significant flooding.

- F.E.M.A.



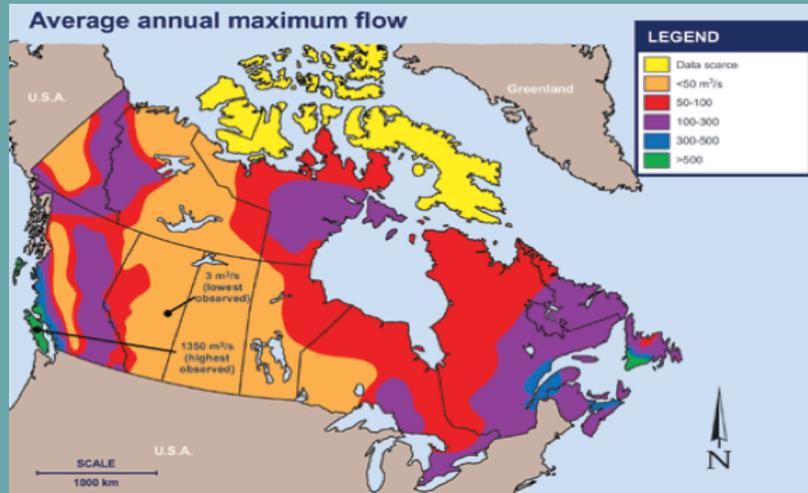
5.5 million homes are members of N.F.I.P. with only **20% of homes** at risk of flooding covered by insurance in the US.

The Resistance market in the US at its basic could exceed **\$21.5 billion**.

2.7 CANADIAN FLOOD PROTECTION MARKET

With an estimated 1.7 million households within flood zones in Canada that would put the number at **£3.4 billion** or **\$5.7 billion** Canadian dollars.

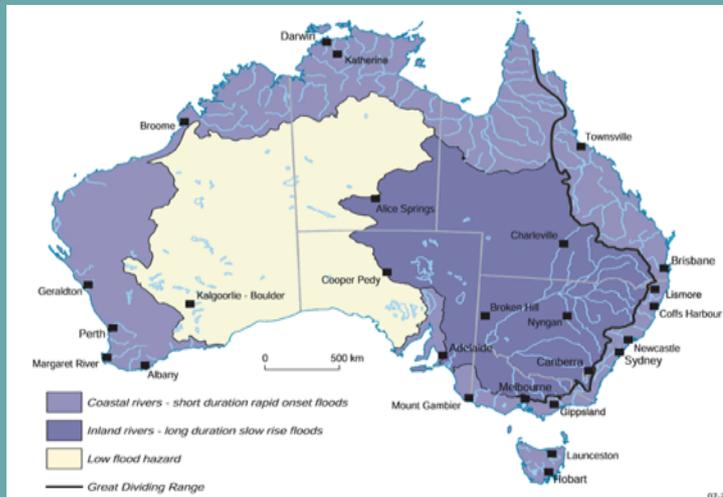
“ 1.7 million Canadian households are at very high risk of flooding. ”



2.8 AUSTRALIAN AND NEW ZEALAND FLOOD PROTECTION MARKET

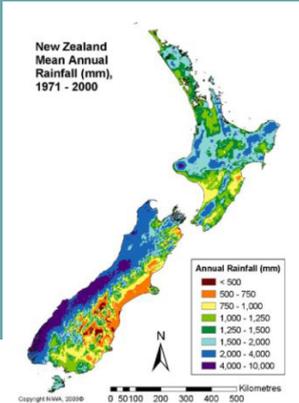
Given the estimated 1.3 million homes in Australia and an estimated 200,000 in New Zealand (based on reporting) the market in both countries could exceed **£2.6 billion** or **\$4.3 billion** Australian dollars.

1.3 million Australian homes have a flood risk rating and annual costs of floods to households exceeds **300 million per annum.**



The SES encourages all homes to consider their readiness for floods and storms to include **developing an emergency plan.**
 – South Government of Australia

About 20% of Aucklands 500,000 homes are at risk of flooding.



3.1 ASIAN FLOOD PROTECTION MARKET?

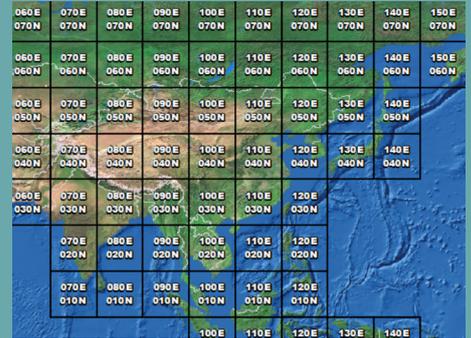
Over the coming years the major flooding events are expected to happen in Asia, where the pace of urbanisation is outrunning the effects of climate change. More people are concentrating in river cities like Ho Chi Minh City, Vietnam; Jakarta, Indonesia; Dhaka, Bangladesh; and Shanghai, China.

11.5 million people are expected to feel the effects of flooding every year

India, Bangladesh and China could see the biggest risks, with about **11.5 million** people altogether expected to feel the effects of flooding every year.

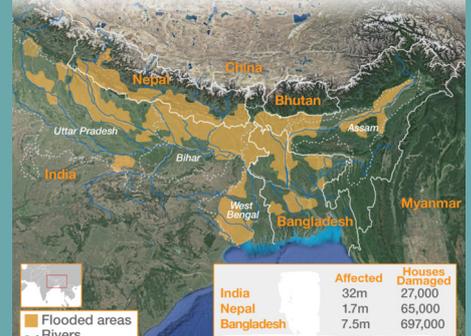
“Southeast Asia will see a large increase in risk, and climate change does cause a significant part of this risk increase. But really, these climate change impacts ... are dwarfed by impacts of socio-economic growth, in particular to the concentrated growth of Southeast Asia’s megacities in flood-prone areas.”

– Hessel Winsemius, Deltares.



Floods ravage South Asia

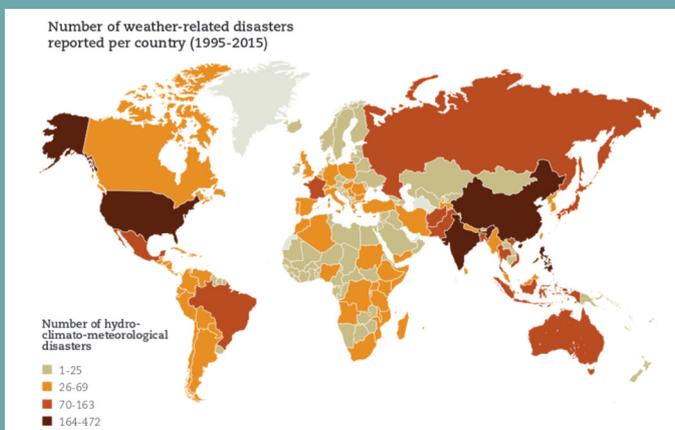
Eastern India, Nepal and Bangladesh have been severely flooded by the annual monsoon rains.



3.2 GLOBAL SUMMARY OF FLOODS INCREASING ACROSS THE WORLD

According to the report, floods strike in Asia and Africa will increase more than other continents, but the level of flooding events increase at an alarming level elsewhere.

In both their best- and worst-case projections of sea level rise the most vulnerable city was Guangzhou, China, followed by Mumbai and Kolkata in India, Guayaquil, Ecuador and Shenzhen, China. Almost all cities with the highest risk of flooding damage were in North America or Asia. (Live Science)



20 MOST VULNERABLE CITIES

1. Guangzhou, China.
2. Mumbai, India
3. Kolkata, India
4. Guayaquil, Ecuador
5. Shenzhen, China
6. Miami, Fla.
7. Tianjin, China
8. New York, N.Y. – Newark, N.J.
9. Ho Chi Minh City, Vietnam
10. New Orleans, La.
11. Jakarta, Indonesia
12. Abidjan, Ivory Coast
13. Chennai, India
14. Surat, India
15. Zhanjiang, China
16. Tampa – St. Petersburg, Fla.
17. Boston, Mass.
18. Bangkok, Thailand
19. Xiamen, China
20. Nagoya, Japan

3.3 SUMMARY

Flooding, no matter what type, is on the increase and in real terms is expected to grow per annum. The percentage of population affected or living within a 1% chance of annual flooding whether the statistics are 1 in 6 households (UK) or 1 in 10 households (US) is increasing. Flood protection must now be regarded within the same category as protection from fire, carbon monoxide and theft. Consumers should have suitable measures in place to protect their homes. The cost of being flooded far outweighs the cost of flood protection and the emotional impact of flooding cannot be measured.

Flood protection products and especially the resistance (DIY) dry flood prevention category now needs to be implemented both instore and through online retail. The key to supporting and helping consumers to protect their homes and possessions against the threat of flood in the future is through product innovation, education, help and advice and most importantly products that are easy to use and deploy quickly and effectively.

Whether it be in retail direct, HomeKit or rentable, flood protection must have a real and credible presence and must be readily available, affordable and easy.

3.4 CONCLUSION

With a mix of socio-economic development and the effect of climate change through changes in rainfall, temperature and sea levels, the change will only make the affects of flooding on homes and businesses, schools, roads, etc worse.

Managaging flood risk today and future risk from flooding involves a combination of controlling risk through structural and regulatory measures, emergency planning and communication by making the public aware of the risk and giving them wider access to products to help mitigate the risk. Ultimately it is the responsibility of the property owner to protect.

Brian Mooney
CEO Founder All Weather Industries (AWI)

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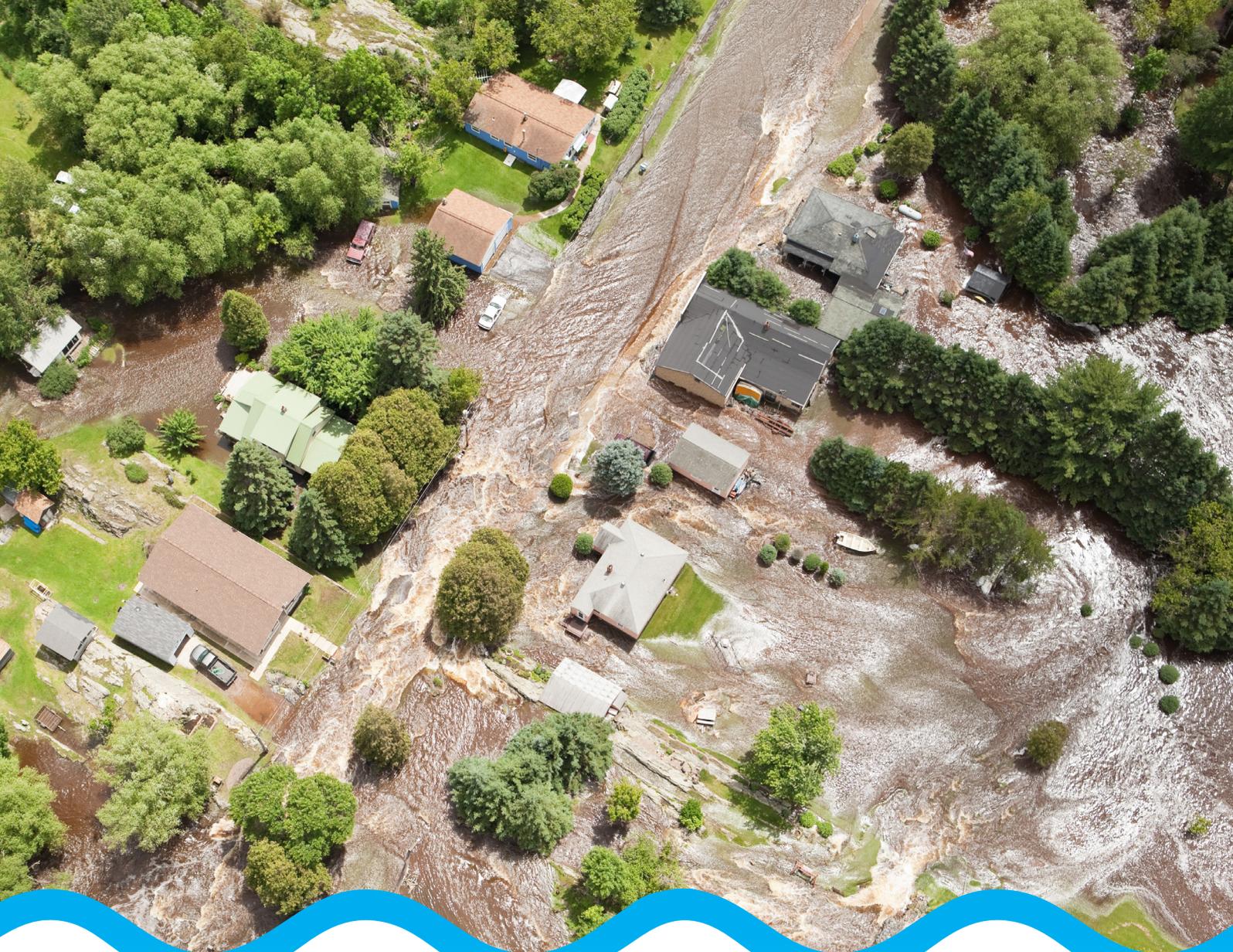
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