



**ENVIRONMENT
SOLUTIONS**

Preventing hydrometeorological disasters



COMPLETE CONFIDENCE IN *ONE SOLUTION*
UNMATCHED *PROTECTION*
UNPARALLELED *TECHNOLOGY*

"The new generation of flood protection"

” Environment Solutions will become the preferred solution provider of flood protection systems all over the world.”

Anders Philipsen, CEO

FLOODING – THE MOST FREQUENT NATURAL DISASTER IN THE WORLD

Flooding is a natural phenomenon, but damage and losses from floods are the consequence of human action.

Flooding is the single most devastating natural disaster in the world and is increasing in occurrence more rapidly than any other natural disaster.

Analysis made by the world bank shows that flooding is not only the most frequent natural disaster – it is also the disaster with the greatest economic and humanitarian impact in terms of number of people affected and in terms of economic asset exposure; in other words buildings, transport infrastructure, utility infrastructure and other long-lived assets.

Flood damage may top \$1 trillion a year by 2050. Many of the most vulnerable cities are in the US. Miami, New Orleans and New York are examples of cities in major risk of flooding.

As flood risk cannot be eliminated entirely, it is essential to plan for temporary and long-term protection, as well as for a speedy recovery.

From now on, not to adapt and not to improve protection is IMPOSSIBLE.

By investing in flood protection measures such as the NoFloods Barriers, these losses can be avoided to a large extent.



"If I had to pick one particular issue, I think the flooding issue is the most dominant"
Professor Sir Bob Watson



*"The frequency of heavy precipitation events
has increased over most land areas"*
The Intergovernmental Panel on Climate Change

FLOODING – A RESULT OF CLIMATE CHANGES?

Devastating floods which have wreaked havoc across the world were made more likely by climate changes and global warming,

One of the most severe effects of the climate changes is flooding. Changes to the hydrological cycle are causing a rise in sea level as well as excessive and heavier precipitation.

CONSEQUENCES OF SEA LEVEL RISE

Global warming is causing sea level rise because the ocean temperature is increasing. Additionally glaciers and ice sheets are melting - which means that there is more water in the oceans.

Average sea levels have risen by 10-20cm over the last 100 years and scientists predict that there will be further rises over the next 100 years. Rising seas will mean more flooding in coastal areas. Many of the world's major cities are on the coast and are likely to experience more floods, exposing people and property to increased risk.

CHANGES IN PRECIPITATION PATTERNS

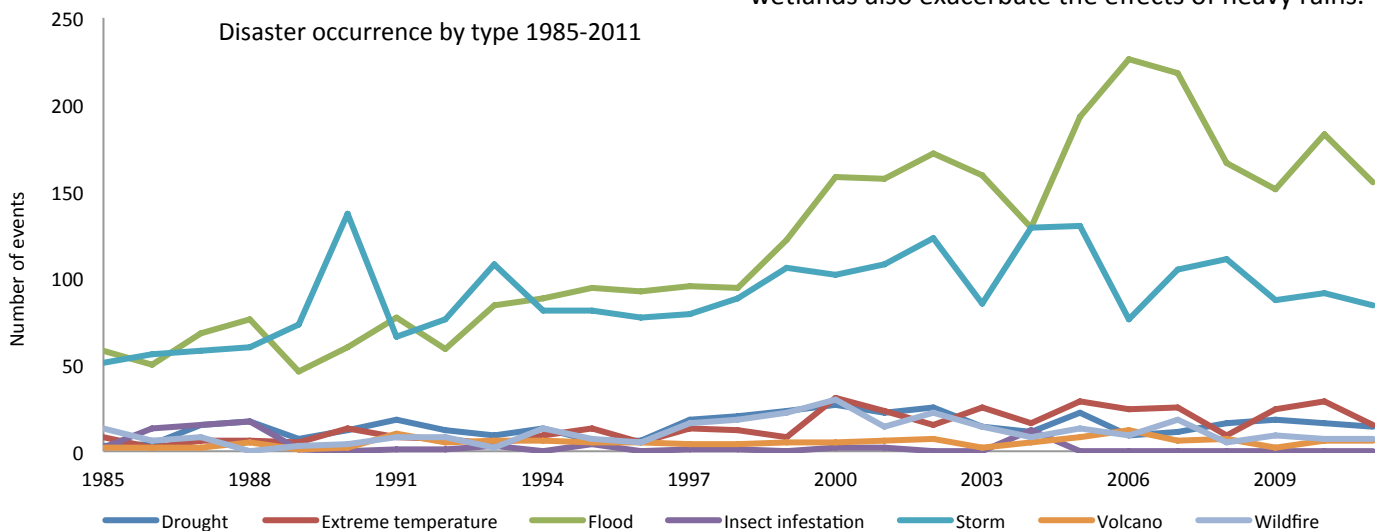
Global warming will also change patterns of rainfall, which will become more variable and with heavier rainstorms. As rain falls more heavily and over shorter periods of time the ground is less able to soak up the water. This causes it to accumulate in pools, and rivers and streams burst their banks. Some areas such as northern Europe and wet tropical areas are predicted to become 40 percent wetter.

NOT ONLY AN "ACT OF NATURAL FORCES" BUT ALSO THE "WORK OF HUMANS"

Whether floods are due to climate changes alone is difficult to say. However they demonstrate how some parts of the world struggle to cope with adverse circumstances.

The consequences of flooding are accentuated by rapid urbanisation as asphalt and concrete surfaces expand and open spaces disappear.

Deforestation upriver from cities and loss of wetlands also exacerbate the effects of heavy rains.





"Not to adapt and not to improve protection is impossible,"

Stéphane Hallegatte, World Bank

“COMPLETE CONFIDENCE IN ONE SOLUTION”

EFFECTS BEYOND BORDERS

Rural but especially urban flooding are becoming more costly and more difficult to manage as low and middle-income countries are transforming into largely urban societies, with a greater concentration of people and property in cities and towns. Losses can reach beyond the edge of actual floodwaters, as it also has a far-reaching impact – for instance on industrial supply chains affecting countries even far away from the actual flooding.

THE WORLD NEEDS A COST-EFFICIENT SOLUTION

The world is in need of a cost-efficient and new standard technology to provide immediate flood protection for the environment, people and infrastructure. The inertia of the socio-economic response suggests that action must begin today.

WHO WE ARE - ENVIRONMENT SOLUTIONS

We are the world’s leading supplier of innovative products and systems for flood protection and flood prevention - minimising the devastating consequences of flooding and hence improving the environment and the quality of life for millions of people.

We probably offer the strongest and most flexible solution in terms of price and efficiency for temporary large scale flood protection as well as temporary liquid storage.

Environment Solutions is a Scandinavian company with more than 15 years of experience within the development of flood protection. Our purpose is to reduce potential devastation caused by flooding.

WHAT WE DO – 15 YEARS OF EXPERIENCE

We have invested actively in creating the world's most cost-effective solution for flood protection, as well as temporary reservoirs for storing rainwater, wastewater etc. Our products and solutions are based on more than 15 years of experience, dealing with floods and natural disasters.

OUR SOLUTION IS TESTED AND CERTIFIED

The NoFloods Barriers are based on technology developed and tested in Denmark. The systems have been extensively tested and certified by several Emergency Response departments such as the French Department of Civil Defence and Emergency Response “Sécurité Civil”. Also the NDRRMC OCD (Manila Disaster Risk Reduction and Management Council Office of Civil Defence) has granted our solution the PRODUCT ACCREDITATION & ENDORSEMENT EVALUATION CERTIFICATE AND RECOMMENDATION for flood protection and oil leak response.

“Investing in flood protection is a very good investment in financial terms,”
Stéphane Hallegatte, World Bank

THE NOFLOODS BARRIER IS PROBABLY THE WORLD'S MOST EFFICIENT WAY TO PREVENT FLOODING

REDON, FRANCE 2014



KEG GAZ, HUGARY 2013



JYLLINGE, DENMARK 2015



PRODUCTS

NOFLOODS PRO – LARGE-SCALE FLOOD PROTECTION.

The NoFloods Barrier PRO solution offers professional, flexible and cost-efficient large-scale flood protection.

No site preparation: The NoFloods Barrier PRO does not require any site preparation, additional equipment or permanent installations.

Easy deployment: Depending on the weather conditions, 4 men can deploy 1000 meters in less than 4 hours.

Modular approach: modules are available in lengths from 50 meters to 200 meters in two heights (NoFloods PRO 60 and NoFloods PRO 125). They consist of two terminals and two water-filled parallel tubes, permanently joined to form a twin tube element with high static stability.

Option to extend: Each section can be continuously extended by the interconnection of special junctions to create an almost infinite length/ prolongation of the barrier to suit the risk.

High stability: The mobile flood barrier has a very high safety factor and due to the hydraulic conditions the barrier will remain stable irrespective of the surface on which it has been deployed.

Flexible and strong: Due to this unique and innovative design and the materials used, our solutions show extremely high strength, high flexibility and high versatility.

This solution is made for high-volume pumps and 1 km of the flood barrier can be filled from just one access point.

NOFLOODS BASIC – FLOOD PROTECTION FOR SHORTER DISTANCES.

The NoFloods Barrier BASIC is a competitively-priced range of flood barriers specially adapted to shorter distances.

No site preparation: The NoFloods Barrier BASIC does not require any site preparation, additional equipment or permanent installations.

Easy deployment: The NoFloods BASIC flood barrier is packed as a roller; you simply unroll it on the ground and fill it with water.

Flexible and strong: The NoFloods BASIC is an extremely flexible and strong product. It can be deployed in various configurations and it is very resistant to abrasion and tear.

Protection height: The NoFloods BASIC can be delivered in 10-30 meter sections and in two heights (NoFloods BASIC 60 and NoFloods BASIC 125). It consists of two connected water-filled parallel tubes that are permanently joined to form a twin tube element with high static stability.

It is possible to extend the NoFloods BASIC Barrier, but depending on the situation and for longer distances we recommend the NoFloods PRO solution.

PRODUCTS

GVOIR – TEMPORARY STORAGE OF LIQUIDS

The GVOIR (Mobile Containment Reservoir) is probably the most efficient solution for temporary storage of liquids.

Based on its unique flexibility and the "add on system" logic, the GVOIR can store unlimited quantities of liquid wherever it is needed.

Fast deployment. Saves critical time and resources. The use of terminals, junctions and tubes in up to 200 meter sections enables fast deployment and use of multiple high-capacity pumps.

A modular approach. Each section can be prolonged by the use of junctions thus adding another tube section in any length needed.

Low weight. Our tubes are very low weight before filling without compromising the strength. This makes our solution very flexible and easy to transport.

Open and/or closed system. You can deploy the GVOIR as an open reservoir or as a closed system.

No logistics. We use liquids to create GVOIR. When fighting spills and water-related disasters liquids are always within reach. There is no need for transportation of larger heavy systems to create a reservoir.

NOFLOODS COFFERDAM

The NoFloods Cofferdam offers an effective and cost-efficient solution for water control (dewatering and/or water diversion). It can be used to facilitate bridge repair, ease the works of excavations, installations, building or simply cleaning out.

The NoFloods Cofferdam is easy to install and is totally safe. The NoFloods cofferdam uses on-site water to fill the twin-tube structure, causing the dam to inflate slowly and evenly to form a strong, stable barrier.

Easy installation: The NoFloods cofferdam is packed as a roller. It is deployed directly into the water, to set up an ultra-fast cofferdam. As the tubes continue to fill and the water pressure builds, the dam unrolls in a controlled manner to create the cofferdam.

Multiple applications: As the NoFloods Cofferdam can be set up in virtually any stream and can be curved in almost any direction, it allows for multiple applications, for instance to dry up one side only of a river or bridge pillar while leaving the other free for the river flow.

Stability: The NoFloods Cofferdam is provided with a skirt to enhance stability. It minimises the risk of the dam slipping.

Modularity: it is possible to connect several sections together to create the exact dam needed.

*"We provide the world with
the new generation of
flood protection"*
Anders Philipsen, CEO



THE INVESTORS

DANISH MINISTRY OF SCIENCE, INNOVATION AND HIGHER EDUCATION

The Agency performs tasks relating to research and innovation policy, as well as providing administrative and supervisory services to the scientific research councils, which allocate funds for independent research, strategic research and innovation. They also advise the government.



**Ministry of Science, Innovation
and Higher Education**

DANISH INNOVATION FUND

The Business Innovation Fund is an official government initiative established in Autumn 2009 under the Danish Ministry of Business and Growth on the basis of a broad political majority in Parliament. The aim of the Business Innovation Fund is to promote growth, employment and export by supporting business opportunities within green growth and welfare, as well as providing support for change-over initiatives that exploit new business and growth opportunities .

BUSINESSINNOVATIONFUND

“The global market perspective provides excellent opportunities for this company in addition to the overall innovation within the company. It is a very interesting business case”

Tom Weidner, CAT



CATSCIENCE

Privately held company, helping entrepreneurs and innovators to find the capital and the right competences. CAT Science Park is a unique combination of government-backed pre-seed capital, science park and venture company.

MINUS2PLUS

Invests in and develops existing businesses that are either in crisis and have a need for capital, are facing a generational change and thus have managerial needs or unexploited growth potential.

MERMAID CAPITAL DENMARK

Private Venture Company that invests in small and medium growth companies.

 CAPNOVA



Enabling Companies Grow

Mermaid Capital Denmark



Environment Solutions ApS
Universitetsparken 7
4000 Roskilde

Phone: +45 36959734

Email: info@environmentsolutions.dk
www.environmentsolutions.dk