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WASTE WATER

On the 30th of July 2002, an average monthly rainfall fell on Glasgow within just 10 hours and flooded over 500 properties.

In such cases, it is tempting to look for a culprit besides nature.

The main organizations, the council, and Scottish water basically said: we need to be doing this better.

Hence the Metropolitan Glasgow Strategic Drainage Partnership or MGSDP was born...

but with a twist.

Yes, this partnership would address flood risk reduction. But with as little steel, concrete, and hard engineering as possible!

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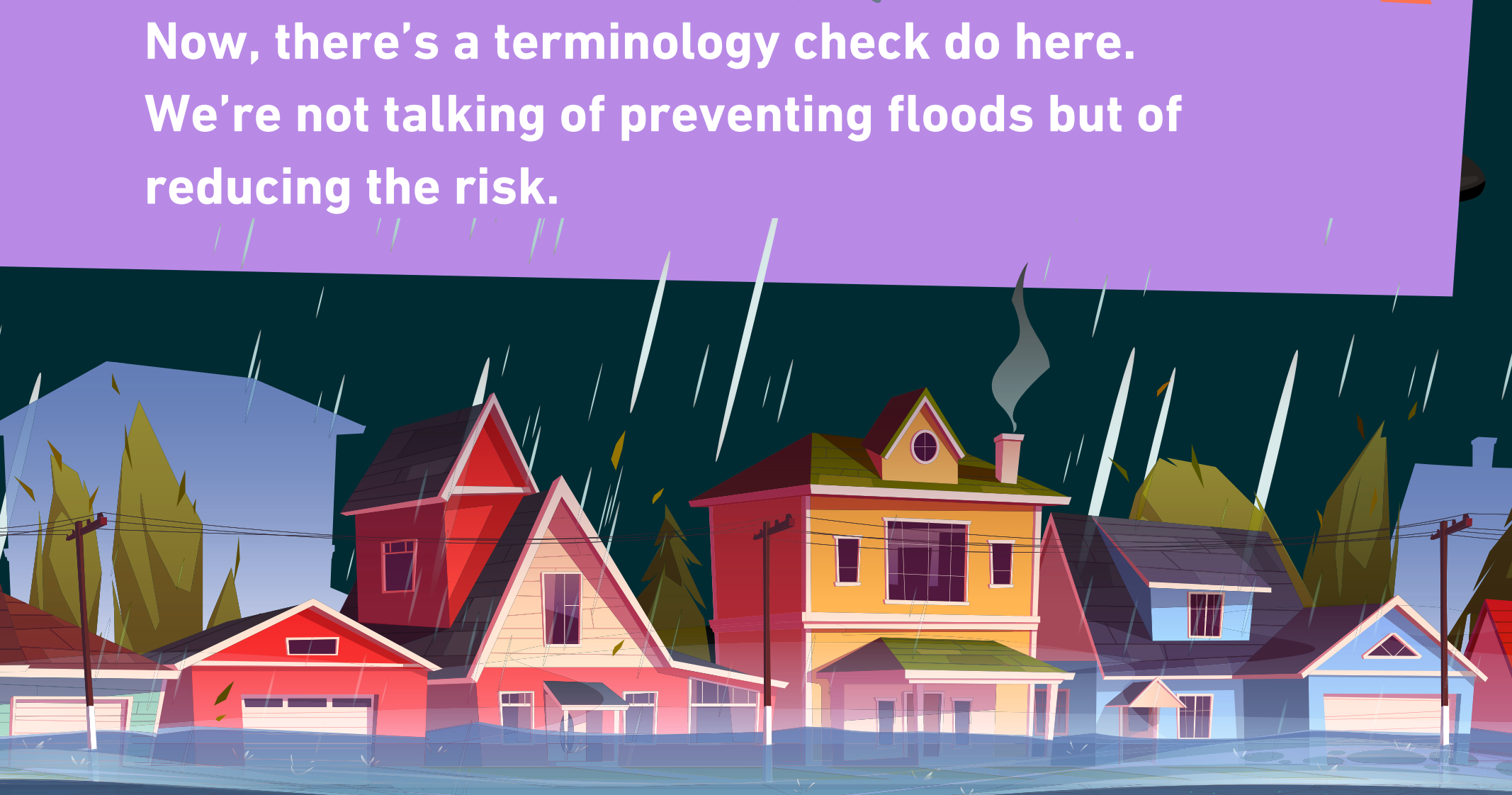
This concept is called sustainable urban drainage systems - or SUDS

It's about managing water closer to where it lands, trying to reuse surface water if we can, and slow it down and control it before it gets into the formal drainage network.

Now, there's a terminology check do here. We're not talking of preventing floods but of reducing the risk.



In other terms, it's about recognizing that you can't put nature in a box.

It will reduce the risk of flooding, help manage it, and reduce its impact, but it's dangerous to say that it will stop flooding!

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A general principle to better the situation is to correct two casualties of urbanization.

1. Swallowing historic watercourses
2. Waterproofing the city's surface

To do so, there's a wide array of options. You can create wetlands, adopt a blue-green approach and create water storage space wherever possible.

Now, do you know a better place to store water than an existing canal?

We use weather forecast data to predict when a big storm is likely to impact the north of Glasgow. We then lower the level of the Canal 24h in advance by up to 100 mm!

This creates up to 55'000 m3 of additional storage capacity for surface water runoff!

One common principle unites all of these options, though: keeping the water on the surface.

If we can keep water on the surface, we slow it down and give it a chance to be used by vegetation or evaporated by the sun.

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The more runoff waters get used, the less they are discharged to a river or a watercourse, which improves overall water quality.

But that also exposes the last hurdle:

We're not comfortable having open water around us

And that is arguably because we've forgotten why our cities have been built around rivers, centuries ago - 15 centuries in the case of Glasgow.

Here's a study that may help: the University of Michigan found that it adds 4$ to the local economy for every 1$ spent on blue-green restorative infrastructure.

So if you don't do it for nature and health, do it for the money 😉

We also covered:

- How confusing it can be to understand the meaning behind a return period of "once in a century"
- How climate change affects the frequency and intensity of meteorological events
- Why blue-green approaches are to be preferred to "grey" approaches, and how to deploy them
- How blue-green comes with a wealth of welcome side effects: improving mental health, fostering biodiversity, limiting urban heat, or enhancing the air quality
- How a smart approach enhances the overall system by feeding it the right data
- How sustainable drainage can create tensions over land use, and what to do to overcome those
- Glasgow's long ball game, adapting regulations, COP 26, public education, and much more!

Don't miss a single bite: head over to dww.show!