

GROUNDWATER FLOODING EXPLAINED

During the winter of 2013/14 the UK experienced a succession of major storms, resulting in some 450mm of rainfall falling in southern England; over 200% of the long term average between mid-December and through February. This water has to go somewhere and there are only two places it can go: It can flow into rivers and it can go down into the ground.

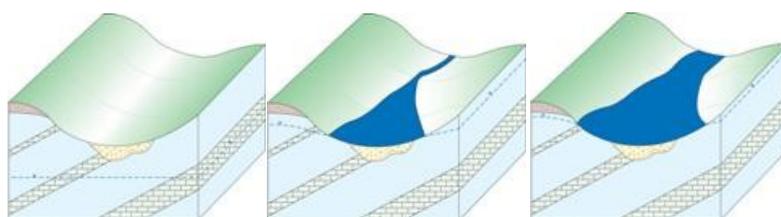


What causes groundwater flooding?

The rainwater that infiltrates into the ground causes groundwater levels (“the water table”) to rise. When the groundwater level reaches ground level then groundwater flooding occurs. In low-lying areas where the groundwater level is usually at relatively shallow depths, even a small rise can cause groundwater flooding.

Where does it happen?

Groundwater flooding is most likely to occur in low-lying areas underlain by permeable rocks (aquifers). These may be deep and extensive such as the Chalk in the South and East, or may be less extensive, localised deposits of sand or river gravels in valley bottoms, underlain by less permeable soils or rocks, which can occur in many parts of the UK.



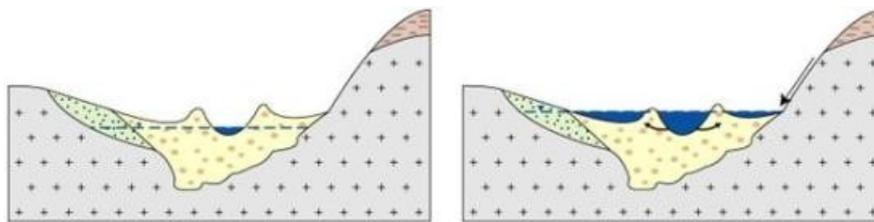
Rising groundwater level causes flooding in a usually dry valley

Why does it cause such a problem?

Groundwater flooding takes longer to dissipate than river flooding because groundwater has to move underground and moves much more slowly than surface water can in rivers.

Where a permeable, shallow aquifer lies above an impermeable rock or clay and rainfall recharge is high, the aquifer can quickly fill with water.

If the river doesn't flood, why do we get groundwater flooding?



Rising groundwater level causes flooding beyond the river

Groundwater flooding in this setting is characterised by natural levees and man-made structures which allow river levels to rise without breaking their banks; and groundwater flooding to occur in low-lying areas beyond the river banks. This can precede any river flooding and usually remains after river flooding has receded. This type of flooding can be relatively short-lived compared with regional groundwater flooding as rivers, returning to pre-flooding levels, drain the permeable aquifer.

My cellar has started flooding, is this groundwater flooding?

Cellar and basement flooding in urban areas can be due to construction into shallow water bearing sediments; inappropriate roof drainage; leaking water mains, sewers and storm drains; as well as the cumulative impact of tanked cellars creating underground dams and restricting groundwater drainage. It is possible that these affects, while exacerbated by groundwater flooding may be “self” created or caused by a third party.

Do I need to be worried?

Groundwater flooding, whether from regional aquifers or shallow sediments is linked to extreme rainfall and is therefore a rare event. However, when it does happen it can be very damaging. Most people need not worry, but if your property is in a river flood risk area; or you are located in valley with no stream; or your address is “Winter Bourne” or “Spring Lane” or the like; or you think that the descriptions above describe your situation, then an assessment of risk may be worthwhile.

What do I need to do now?

The biggest issue with groundwater flooding is finding a solution. Unlike river flooding flood defences don't work. The approach to finding a solution is to determine the risk or likelihood of it happening in any particular area and then look for site specific options.

Contact Envireau Water NOW by e-mail or phone to arrange a **no fee** consultation on your situation.

WE ARE HERE TO HELP

Understanding the risk to your home, business or development relating to impacts from water may be vital, and if so mitigating the risk as effectively as possible is essential. **Contact us today** to discuss how we can help you to meet your obligations, reduce your exposure and save you money.

Visit our website for more information.

www.envireauwater.co.uk

