



Flooded out December

by Mark Iddon

The month of December 2015 experienced the most rainfall in a calendar month in Scotland, Wales and North West England for over 100 years. As the persistent rain fell on already drenched hills the rivers swelled and burst their banks to cause extensive flooding of towns and villages in Cumbria and Yorkshire causing damage to property, roads and bridges along with power cuts and means of sanitation.

It is not the first time that these areas have experienced flooding, and questions have been asked as to whether lessons were learned from the past and if enough has been done to prevent further occurrences. Or, is the problem getting worse through a change in circumstances beyond our control such as climate change?

It has been reported that the weather was wetter than normal because of warm air from Southern Europe which can carry more moisture mixing with jet streams over the Atlantic Ocean causing a period of greater rainfall intensity for December. Three storms were identified and named Desmond, Eva and Frank in early, mid and late December respectively. The rainfall we are experiencing at the moment is seasonally normal but still causing problems because of already saturated ground condition.



Many are saying that government cuts in the funding of flood defences are to blame and some damage may have been alleviated if more extensive work had been undertaken, but it would need to be part of a greater strategy to cope with the sheer volume of these floods. Building defences can give relief locally but may well shift the problem to the next weakest point.

One author and former sheep farmer, [Philip Walling](#), has suggested that more dredging of rivers should have been done to increase the capacity of Rivers by removing the silt build up to allow faster egress of water to the sea. He has noted that dredging was carried out historically and regularly until European Union (EU) legislation was introduced in 2000 in the form of the European Water Framework Directive (EWFD) funded by EU grants. Many River Trusts have been established over the last decade to work with Councils and the Environment Agency to facilitate the requirements. This directive is required to make rivers as natural as possible and relieved governments of their responsibility to dredge the rivers.

Many environmentalists such as the author George Monbiot writing in the [Guardian](#) , suggest that the money has been spent in the wrong places and that it should be focused not on where the floods are occurring but higher up in the hills. His contention is that farming and deforestation / clearance for grouse moors, which compacts the ground and floods are exacerbated by the inability of the ground to absorb excessive ground water. He also says that it is the obstacles in the rivers being allowed to meander rather than run straight down hills that helps slow the water flow. Gravity dictates that water will take the shortest route so even if the rivers did meander and braid there is the possibility of breaching the banks in the event of considerable rainfall such as we have had in the last month.



It has been noted that houses are being built in flood plains but this may partly because the way planning law restricts the location of new developments, and also because the Environment Agency formed in 1997 are constantly reassessing and increasing the areas which are deemed to be at risk of flooding. In my work as an architect I am often required to submit flood risk assessments or confirm that new extensions are not below existing floor levels in order to validate a planning application.

The areas shown on news articles over the last month have been predominantly established towns and villages that have been hit because of geography and where streams / rivers meet in valleys rather than new developments.

The problem I have with the current discussion regarding the floods - whether it is of climate change, deforestation or the pros and cons of dredging is that it is all about 'how can we defend ourselves against the great forces of nature' rather than 'how can the forces of nature be tamed by human ingenuity for the benefit of the human environment.' It is an under siege mentality that obscures the possibility of an engineering solution such as the building of dams to create reservoirs in order to control the rate at which the water flows. This could have the added benefit of storing water for consumption during dry years or the creating hydro electric generating stations for more energy as the coal fired stations are decommissioned.

Aqueducts could also be constructed to become a means of transport to alleviate the congested roads that are in dire need of upgrading and enlarging. Projects such as these could be costly and take time to establish but have got to be worth pursuing to avoid the destruction and damage caused to property, business and tourism that we have seen in Cumbria and Yorkshire in the last month. The idea of merely defending against floods suggests a society with low expectations instead of one that is confident and ambitious in building a better future.

What is needed is a more creative and ambitious approach, to progress and develop our built environment by building on the legacy of the industrial revolution to create the city of tomorrow, rather than the make do and mend environment that is discussed elsewhere.