

Gloucestershire Floods 2007.

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Abstract

This article reviews sources of information relevant to the Gloucestershire floods in 2007.

1. Introduction

Gloucestershire, as well as other parts of England, was subjected to severe floods in July 2007. The object of this note is to list sources of information about these floods, their causes and impact, and to add a few comments.

2. What happened?

The information in this section is extracted from the Environment Agency website and from the Pitt Review both of which are listed and referenced in Table 1.

In the period May – July 2007 an average of 414 mm of rain fell across England and Wales, the highest total since national records began in 1766. In the south-west, peak rainfall in June left the ground saturated and unable to absorb the heavy rainfall in the week of 18 July. In Gloucestershire 197 mm fell in July, more than four times the 1971 – 2000 average. Approximately 4000 homes and over 500 businesses were flooded. Severn Trent Water's Mythe water treatment plant was flooded on July 22, leaving 350,000 people (140,000 households) without water for 17 days. Severn Trent Water provided more than 50 million litres of bottled water and bowsers appeared on the streets of Gloucester. On July 23 Central Networks Castle Meads electricity substation was shut down leaving 42,000 people without power. Some 10,000 motorists were left stranded on the M5 and other roads overnight and 500 train passengers were left stranded at Gloucester Railway Station. The A46 road at Salmon Springs just north of Stroud was seriously damaged and was closed for repairs for several months; lengthy diversions caused problems for Painswick. The River Severn overflowed its banks and Tewkesbury was seriously flooded and effectively cut off in July 2007 (see Figure 1) and was

again flooded, less severely, in September 2008.

Global climate change and changes in land use make it likely that such events will become more frequent and more severe.

3. Complexity

The issue of flooding, its causes, consequences and aftermath is extremely complex, though to those whose homes have been flooded and those who write to the newspapers, it may seem simple. Many organisations are involved. The Meteorological Office is responsible for weather warnings and the Environment Agency (EA) is responsible for flood warnings. These warnings are communicated directly by door-knocking, phone, email, internet and local media. In the event that floods cause the closure of roads, rail, schools, hospitals, water supplies and electricity supplies, these closures are communicated in a similar way. Such events are coordinated by central or local government. Emergency services, including the Fire Service, Red Cross, police, ambulances, helicopters, inland lifeboat institutions and in extreme cases the army are needed to rescue people from the floods.

“Refugee” centres are established in school halls, churches, village halls and other suitable locations where blankets, toilets and modest catering (“a nice cup of tea”) are provided, often by local volunteers. Coordination of response in the immediate aftermath of flooding is managed by Gold Command (strategic level), Silver Command (tactical level) and Bronze Command (operational level) centres, depending on the extent and severity of the emergency. These Commands, which operate for other emergencies as well as flooding, provide office facilities, a phone number, 24 hour response and one person in charge. Restoration of flooded properties and businesses can be slow and depends upon spare capacity in



Figure 1. Tewkesbury Abbey is surrounded by floodwater from the River Severn and the River Avon, 23rd July 2007. Photo: by permission of Rex Features.

the building trade. In general the insurance industry performed well; it is estimated that the payout will be of the order of £3 billion. Insurers received about 165,000 claims which is about 4 years claims under normal circumstances. A problem arises with poorer people who cannot afford to insure their house or contents. Also those who have claimed may have a problem in renewing their cover which may become subject to a large “excess” fee.

4. Current methods of inquiry

Probably the only organisation with sufficient in-house expertise to implement a comprehensive inquiry into flooding is the Environment Agency. Other bodies must either appoint consultants or set up a committee to receive written and oral evidence, discuss it and make recommendations. The availability of the internet means that information and discussion and recommendations can be made available, at length if necessary, without using paper (see Table 1). This can also serve as a means of consultation (for those who have access to the internet). If the reports are clearly laid out, with a list of contents and an executive summary, those

who need specific information can find it fairly easily. However a good many committee-person-days and secretarial-person-days must go into the preparation of these reports and the provision of over three thousand internet pages, as shown in Table 1. Sections 5.1 – 5.6 expand upon the six organisational reports listed and referenced in Table 1.

5.1 The Pitt Review

The Government commissioned Sir Michael Pitt to carry out a review under the heading “*Learning Lessons from the 2007 Floods*”. Sir Michael published his interim report in December 2007. It included 84 interim conclusions and 15 urgent recommendations. The Interim Report was available for consultation and Sir Michael and his team travelled around the country holding consultation meetings with interested parties. The Final Report was published in June 2008. In his covering note Sir Michael said “We start with the needs of those individuals and communities who have suffered flooding or are at risk”. While it is a long report, it is comprehensive, covers the severe flooding in the whole of England not just Gloucestershire, is well

illustrated with photos and diagrams and leavened with quotations from consultees reacting to the Interim Report. Sir Michael in the Press Notice accompanying the Report says "The recommendations in my report are realistic and affordable and should be made a priority". He also says that "It is unacceptable that one year on thousands of people remain in temporary accommodation". In some cases where properties have been damaged by ground water flooding the damage is exacerbated if sewage is mixed with the groundwater and restoration becomes more difficult. The government has initially set aside £34.5 million over three years for implementation of the Pitt Review recommendations.

5.2 Department of Environment, Food and Rural Affairs

DEFRA published in February 2008 a green paper entitled *Future Water; The Government's water strategy for England*. This paper covers much wider topics of watercourse management and water supply and not just floods. However it has been open for discussion and government referred to it frequently in their response to the EFRA Committee (see 5.3 below). No doubt *Future Water* will also contribute to the government response to the Pitt Review. Then all these strands will contribute to the forthcoming *Floods and Water Bill* to be laid in draft before the next session of Parliament.

5.3 House of Commons Environment, Food and Rural Affairs Committee

The Committee carried out an enquiry into flooding, receiving oral and written evidence from many organisations and individuals. Their Report contained 41 recommendations to which Government responded promptly, and mainly positively.

5.4 Environment Agency

There is a lot of useful information on the Environment Agency website. The EA published on their website in December 2007 a *Review of 2007 Summer floods*. It includes 6 short studies, one of which is headed "Gloucestershire's vital services under threat". EA subsequently carried out a survey of nearly 17,000 vital facilities in England to see what proportion

could be at risk from flooding. The percentage in different categories ranged from 6% (hospitals) to 58% (sewage and water plants).

An ancillary problem highlighted by the EA and mentioned in the Pitt Review and the EFRA Select Committee report is the availability of skilled personnel in the general area of Flood Risk Management. EA has collaborated with the University of the West of England to develop a bespoke Foundation Degree in this area. Of the 56 graduates so far 52 are working in Flood Risk Management roles in the EA.

EA have published a booklet entitled *Living on the Edge* (20 pages, available on the EA website) which provides information for riparian owners on their rights and responsibilities and how best to discharge them. This is very useful for Local Resilience Fora (see Section 8).

5.5 Gloucestershire County Council

Gloucestershire County Council set up a Scrutiny Inquiry whose report and other documentation were published on the internet as indicated in Table 1. Two national inquiries had been commissioned and "the County Council wanted to make sure that the views and interests of the people of Gloucestershire are fully represented at this national level." To the credit of the Committee and its Chairman, it is carefully monitoring responses to its recommendations ("Firms slated over floods", Wilts & Gloucestershire Standard 07/08/08).

5.6 Cotswold District Council

Cotswold District Council commissioned Hyder Consulting (UK) to carry out a Review of the Summer 2007 floods in Cotswold District. The report cross-references with the Pitt Review, the EA Report and the GCC Scrutiny Report. Much of the flooding in the Cotswold District was attributable to surface water flooding which occurs when the drainage system cannot cope with the rainfall. The Hyder Report identifies the 20 most vulnerable and most affected areas within the Cotswold area. This is a good starting point for the establishment of Local Resilience Fora mentioned in Section 8 and Hyder has useful suggestions for their operation.

Table 1 Organisations and reports

Organisation	Report	Internet Site		Date	Pages	Exec. Summary Pages	Conclusions /Recommendations	Response
Central Government	The Pitt Review, Learning Lessons from the 2007 Floods	www.cabinetoffice.gov.uk/hepitrreview	Interim Report	December 07	165	4	72/15	Recommendations accepted immediately
Dept. of Environment, Food and Rural Affairs	Future Water: The Government's water strategy for England	www.defra.gov.uk/environment/water/strategy/pdf	Green Paper	Feb 08	96			Government response due autumn 2008
House of Commons Environment, Food and Rural Affairs Committee	5 th Report HC49-1 Flooding	www.parliament.uk/efra.com	Report Oral and written evidence	May 08	604		/41	Government Response July 2008 See internet site in column 3
Environment Agency	Review of 2007 floods	www.environment-agency.gov.uk/subjects/flood	Comprehensive website	current	100 or more pages relevant to floods		EA implements recommendations from other organisations	
Gloucestershire County Council	Scrutiny inquiry into the summer emergency 2007	www.gloucestershire.gov.uk/inquiry	Report Written submissions from 4 days hearings	Nov 07	148		7/5	Response from various organisations ongoing
Cotswold District Council	Hyder Report	www.cotswold.gov.uk	First Phase Second Phase	Nov 07 Feb 08 May 08	922 27 59		8/4 /7	

5.7 Gloucestershire Federation of Women's Institutes

Gill Thomas and Sue Wilson compiled a small book of reminiscences submitted by Gloucestershire WI members and their families and friends, *The Gloucestershire Floods 2007*. This is anecdotal and is well illustrated with black and white photos. It adds a strong human dimension to the more technical reports listed above.

6. Organisational and Administrative Problems

Several recommendations in the various reports are organisational suggesting who should be responsible for what, and what cooperation should take place. In principle such recommendations are simple to implement and may even save money. In practice each organisation is likely to defend what it sees as its territory and its budget. Joined up thinking and policy implementation are difficult to achieve. DEFRA itself is a good example of the difficulties of combining different organisations, which have different cultures, in one department.

7. Catchment Management

Urban development increases the amount of impermeable surface. More front gardens are being concreted over for car parking. Modern farming methods mean that farm land is less permeable and has lower water absorption than it used to have. Heavy sheep grazing on the upland catchment of the Severn has caused accelerated runoff. Afforestation, or even modest tree planting, has been shown to reduce rapid runoff. Environment Secretary Hilary Benn announced (July 2008) funding of £500,000 for two pilot projects that will explore how land management can reduce the risk of flooding. On the one hand this demonstrates that DEFRA have grasped the importance of land management in reducing rapid runoff. On the other hand it is gesture politics since any new experiment would need at least 5 years to produce useful conclusions and there is already plenty of evidence available which could lead to best practice. A thorough desk study would be more useful.

There has to be a presumption against, but not a complete ban on, new development on flood plains.

This is set out in *Planning Policy Statement 25, Development and Flood Risk*, published in December 2005. The effective implementation of PPS 25 varies between different planning authorities. *A Practice Guide to the Implementation of PPS 25* was published in June 2008 (156 pages) and should help planning authorities in a difficult task.

8. Resilience

A key concept is resilience defined in the Pitt Review as "the ability of the community, services, area or infrastructure to withstand the consequences of an incident." Cotswold District Council (CDC) has appointed a Community Resilience Liaison Officer to facilitate the setting up of local groups at village or parish level. Such groups may be called Local Resilience Fora or Local Flood Prevention groups, or some similar title. The functions of such groups will vary greatly depending on the problems in the area concerned and the personnel in the group, but such groups are very important because they encourage local people to become involved in local problems. Some Groups will recruit their own Flood Wardens to keep an eye on local water courses during periods of heavy rainfall. Riparian land owners, those who own land adjacent to water courses, have responsibility for aspects of water course management and may be better able to discharge such responsibilities if they become members of a local group. CDC has published a leaflet entitled *Community Resilience for Town and Parish Councils*. As mentioned above the Environment Agency booklet *Living on the Edge* will help them. Potential conflict between over-drastic river management and nature conservation can be avoided by consultation. Each Local Resilience Forum will need to establish a comprehensive website, whilst ensuring that those who have access to it communicate its content to their neighbours who do not.

9. What happens next?

Government has undertaken to respond to the recommendations in the Pitt Review during autumn 2008. A new *Floods and Water Bill* will be laid before the next session of Parliament,

and, after discussion, will presumably become an Act. This will set out the responsibilities of central and local government, statutory agencies, utilities and local groups. Meanwhile a lot of local mitigation work is proceeding. If all or most of the Pitt Review recommendations are implemented over, say, the next three years, it will represent a step change in reducing the impact of the next major flood event and in coping with it when it happens. It will be interesting to see how far government, in a time of significant economic stringency, feels able to commit additional funds, which surely will be needed, to implementing the Pitt Review recommendations. Watch this space!

Acknowledgement

We are grateful to Rex Features who kindly allowed the use of its image Rex_67789Uc as Figure 1.

References

- see also the internet references in Table 1, column 3

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