

WHEN THE RAINS CAME – THE EASTER 1998 FLOODS

by Naomi Peirce

THE EASTER FLOODS OF 1998 (Figure 1) were the worst on record at many locations in a 5000km² area bounded by Bedford to the east, Evesham to the west, Peterborough to the north and Oxford to the south, with estimates of insured and uninsured losses in excess of £350 million. Five people lost their lives directly or indirectly as a result of the flood (Figure 2), and six months later some people were still without a permanent home.

What caused this flooding? How were people affected? What lessons can be learned? These are the questions that will be dealt with in this unit, which focuses on the experiences of the communities of St James and Far Cotton in Northampton.

Setting the scene

Northampton lies 13 km east of Daventry and 17 km west of Milton Keynes, at the confluence of the River Nene's main tributaries, the Brampton Branch and the Kislingbury Branch (Figure 3). There are three Anglian Water supply reservoirs upstream, and several smaller flood storage reservoirs, which should have helped the town on the night of Thursday 9 April 1998.

The majority of the Far Cotton and St James areas of Northampton were developed in the 19th century, and these areas had a history of flooding. However, although significant development and redevelopment had resulted in a loss of floodplain, flood defences were considered to be adequate. There had been no major flooding in Northampton since 1939, and the



Figure 1: Flooding in St James, Northampton – Easter 1998

Source: Courtesy of Paul Duckett

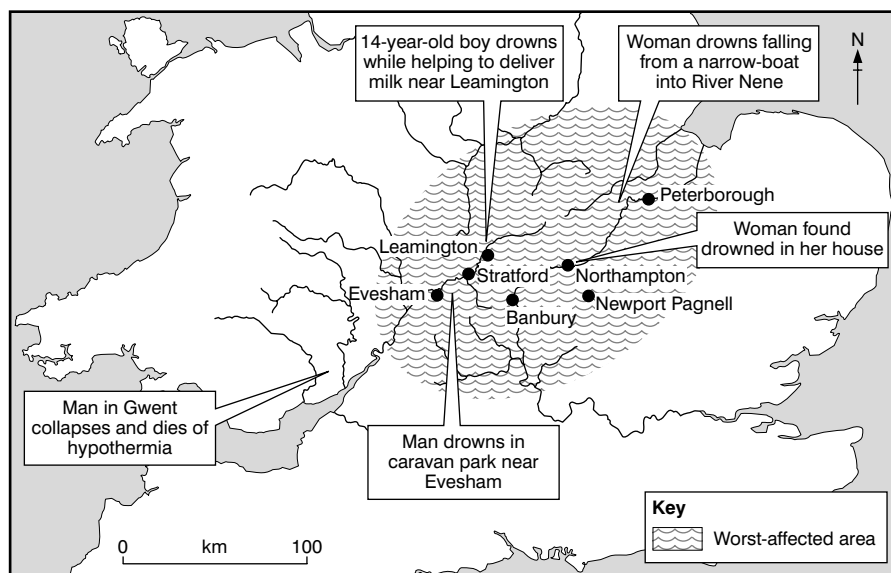


Figure 2: The extent of the flooding

core elements of the flood defences in 1998 dated from this time.

Bank holiday weather

April 1998 was exceptionally wet, with up to 3.2 times the average monthly rainfall totals over much of England and Wales.

By Tuesday 7 April a cool northerly airflow covered the UK, and an area of low pressure formed near Iceland. On 8 April this depression moved southwards across the UK. As the front moved across southern England on 9 April, thunderstorms broke out ahead of it. These thunderstorms, although not

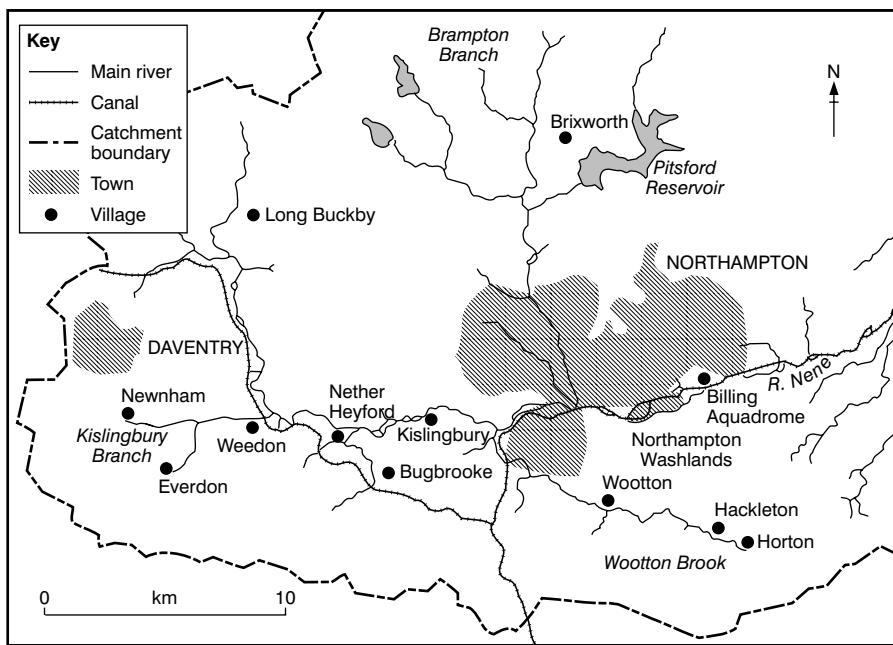


Figure 3: The Northampton catchment

directly responsible for the flooding that followed, certainly resulted in the ground reaching saturation point in many areas. A blocking anticyclone over Scandinavia meant that the rain-bearing winds remained virtually stationary over the Midlands for almost two days.

Most of the rain fell in a band about 300 km long and between 50 and 100 km wide, stretching from the Black Mountains in South Wales to the north of Cambridgeshire. Many of the areas affected received more than 75 mm of rain – equivalent to 6 weeks of average rainfall – in a 36-hour period.

It was a combination of persistently heavy rain falling on already near-saturated ground that caused the rivers to rise so rapidly, to levels that were as high as or higher than any on record.

There can be little doubt that these exceptional weather conditions would have resulted in some flooding in Northampton, regardless of human intervention. Several human factors, however, combined to make the situation worse.

- Flood forecasting was handicapped by insufficient rainfall information

which masked the severity of the event.

- Flow measuring stations were poorly placed for flood monitoring and quickly became overwhelmed or were by-passed altogether.
- Forecasting did not take into account that reservoirs upstream of the town were full prior to the storm.
- River channels were poorly maintained in some places, with trees and debris reducing the storage capacity of the channel.
- Flood defences were poorly maintained and funded – some defences had 4 metre gaps in them.
- Some ordinary watercourses and drainage systems within the area were in a poor condition, and this probably added to the length, size and depth of the flood.

Arrangements for direct warnings to the public were not in place, as the Environment Agency did not see Northampton as being a high-risk area. None of the residents of St James knew that they were living in a flood-risk area, so the flood came as a total shock.

The floods arrive

During the night of 9/10 April 1998 more than 2,400 properties in Northampton were affected. Many residents have commented on the speed at which the floodwaters rose.

Power supplies were cut off, and as most people were asleep in their beds, there was little time to take action to reduce damage.

There were two deaths in the Northampton area: Mrs Chalio Spence was swept to her death from a narrow boat at South Bridge, and Mrs Frances Fisher of St James was drowned in her home by rising floodwater from which she was unable to escape.

A mass evacuation operation was launched, with lorries, trucks and small boats transporting residents to Goldings Middle School and a church hall, both on higher ground. Some residents were stranded in their flooded homes for more than 12 hours before rescuers were able to get to them; many of them suffered from shock as a result of their experiences. Local companies, including Tesco and Sainsbury's, helped out with emergency food supplies at the request of the St James Residents Association.

Counting the cost

By 10 April water polluted with sewage, heavy metals and mercury had swept through 2,500 properties. Contaminated water now posed a serious health risk. Northampton Borough Council issued an advice leaflet on how to deal with cleaning up (Figure 4).

Once the rains stopped it was still going to be a long while before things returned to normal for the residents of St James and Far Cotton. One in three households in St James was uninsured; 5,000 cars in the area were written off. Many people were so traumatised by events that they felt unable to return to their homes. Council tenants were given the option of being permanently re-housed elsewhere and, at its peak, there were 60 houses for sale in the flood-affected area of St James. The Borough Council estimates its own expenses as a result of the flood to be somewhere in the region of £6 million. Figure 5 sets out just a few of the stories of that night.

CLEANING UP

- Wash silt from walls, floors and hard furniture repeatedly with hot soapy water and then disinfectant.
- Clean food preparation surfaces and kitchen cupboards with food-safe disinfectant.
- Put clothing, bedding and soft furnishings on a hot wash, or have them cleaned professionally.
- Scrub away oil or diesel, using detergent.
- Wash hands carefully if they have been in contact with floodwater or silt.

Figure 4: Advice from Northampton Borough Council

Local businesses lost thousands of pounds' worth of stock. Even more business was lost as shops were forced to remain closed for months until repairs were completed. Many, like the Majestic Wine Warehouse, were unable to open until July or August.

The Northampton Flood Relief Fund was established and over £160,000 was collected to help flood victims. For many, however, money could not replace the years of accumulated possessions and memories that had been washed away.

'The house is trashed and the furniture floating'

Householders were rescued from the top floors of their flooded homes in Northampton by volunteers on a JCB digger.

Residents in houses in St James Park Road spent the night moving as much furniture as possible to upstairs rooms as water began to pour under their doors early yesterday.

Shock in wake of the floods

More than 500 people sought shelter from the storm at a church and school in Northampton. Gladys Labrum, aged 81, of Abbey Street said, 'The water was up to my knees when I came downstairs early this morning'.

Implications

The Easter 1998 floods highlighted the controversy surrounding floodplain development. The Borough Council argued that all developments had been subject to planning permission and that adequate flood protection measures had been taken. Now, the Borough Council will not grant planning permission for any new greenfield development on the floodplain, but admits that it finds it far more difficult to refuse planning permission on existing brownfield sites. Northampton is the sixth fastest-growing town in the UK, with an average of 2,000 new inhabitants arriving each year, and the Council must balance the risk of another severe flood against the need to continue to encourage new industrial and residential developments in the town.

The Environment Agency finally agreed to a public meeting on 6 October 1998 (Figure 6), six months after the flood. There they were grilled by angry and frustrated residents who wanted to know why the flood happened, and what was going to be done to make sure that it never happened again.

Following much discussion with local residents, the Environment Agency has placed four flood

'People are confused, frightened and cold'

The Westbridge area of Northampton looked like a battle zone at the height of the floods. Fire and ambulance crews, police officers, Venture Scouts, Army Cadets, amateur divers and a jet-bike owner took over the bridge to ferry people to dry land throughout most of yesterday.

Water health risk

Sewage in river water which deluged parts of Northampton last week will pose a serious health risk unless flood victims take common-sense precautions.

Figure 5: How the local press saw the flood

EASTER FLOODS

GUILDHALL PUBLIC MEETING

7.30PM

THIS TUESDAY
OCTOBER 6th

We the residents of Far Cotton and St James will meet face to face with the Environment Agency Officials.

If there is ever a meeting you should attend,

THIS IS IT!

NO WARNINGS

FLOOD DEFENCES MISSING

QUESTIONS UNANSWERED

Far Cotton and St James Residents Association ask you to put aside other matters for this night and to go with your friend's, neighbours and supporters to this meeting.

OUR FIGHT FOR COMPENSATION BEGINS AT THIS MEETING. BE THERE. SHOW YOUR SUPPORT

Figure 6: Poster advertising the public meeting with the Environment Agency

warning sirens – two in Far Cotton and two in St James – to alert residents to the risk of flooding as early as possible. The issue of flood sirens is complicated. Many would rather have seen more money used to prevent flooding than to warn residents that a flood is about to happen. Residents are also concerned about the effect that these very visible reminders of the risk of flooding will have on house prices.

A total of £6 million will be spent by the Environment Agency over five years, improving flood defences in Northampton. Measures include the construction and repair of flood defences and the dredging and widening of river channels. The rate of discharge in some areas of the River Nene has already been improved by as much as 30%.

The Environment Agency clearly lost the confidence of the people of Northampton, and it will have to work hard and invest significant sums of money to restore this confidence.

The Easter 1998 floods only affected 1% of major rivers in England and Wales. The question remains, though: When will it happen again? We can reduce the risk from flooding, but we can never eliminate it altogether.

Activities

1 Write single-sentence definitions of the following terms, which are used in this unit:

- depression
- blocking anticyclone
- confluence
- tributary
- floodplain
- silt
- greenfield site
- brownfield site.

2 Figure 7 shows isohyets (lines joining points of equal rainfall) for the 48 hours ending 09.00 on 10 April 1998.

On your own copy of this map:
(a) Complete the isohyets for 40 and 60 mm.

(b) Shade your map to show the different intensities of rainfall, and add a suitable key. Which areas received the highest rainfall during this period?

(c) Draw up a table to list the human and physical causes of the flooding in Northampton.

(d) Northampton did not receive the most rainfall and yet it was very badly flooded. What factors other than intensity of rainfall could lead to a flood?

3 Explain how the weather conditions in early April 1998 meant that some flooding in the Nene river basin was almost inevitable.

4 Look back at Figure 5. Use this information, together with ideas of your own, to design an information leaflet for residents in a flood-stricken area. Remember to explain *why* people should follow your instructions.

5 Much of this unit is concerned with the losses that people suffered. Work with a partner to make a list of people and businesses that might *benefit* from a flood like this. Explain the reasons for your choices.

6 Figure 8 shows some of the proposals for flood warning systems

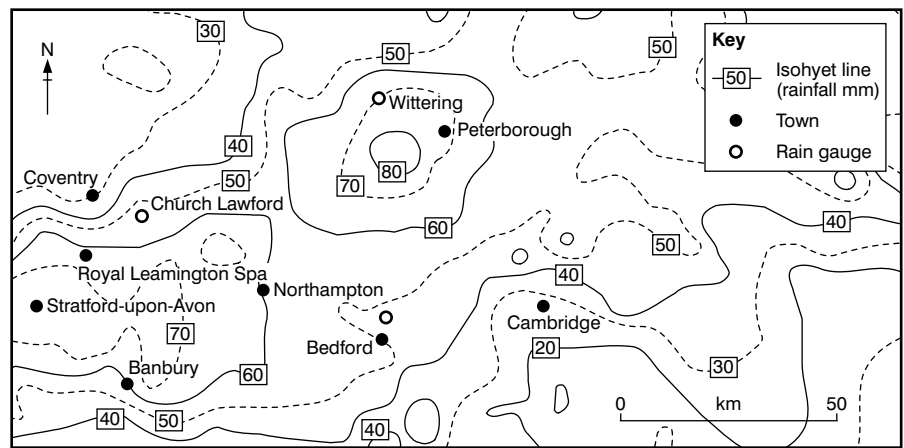


Figure 7: Rainfall during 48 hours ending 09.00 on 10 April 1998

Source: Based on map and data provided by the Met Office

put forward by the St James Residents Association.

(a) Work with a partner to suggest one advantage and one disadvantage for each proposal.

(b) Do you think that the best option was chosen? Give reasons for your answer.

7 (a) What are the advantages of greenfield sites for companies wanting to locate on the Nene floodplain?

(b) Until 1998 no serious flooding had occurred in Northampton since the end of the 1930s. Should the Borough Council continue to allow new development on the floodplain of the River Nene?

8 Write two speeches:

- on behalf of a local property developer, explaining why you think development should continue on the floodplain
- on behalf of the St James Residents Association, explaining why further development on the floodplain would be disastrous.

9 In August 1999 a proposal was unveiled to build homes on 500 acres (200 ha) of the Althorp Estate, to the north-west of Northampton. Local residents expressed concern about possible effects on drainage.

(a) Decide whether you are for or against further development in the Nene basin upriver of Northampton.

(b) Design a poster to advertise a public meeting about the development, indicating the

arguments for and against it.

Ideas for further investigation

- Compare the causes and consequences of the Easter 1998 floods with a river flood in a developing country like Bangladesh. Account for differences in the scale and type of damage caused.
- Find out about flood defences in your local area.

POSSIBLE SOLUTIONS	
*	Sirens
*	Telephone automated dialling system
*	Flood wardens
*	Police loud tannoy
*	Warnings through the media: TV, radio, etc.

Figure 8: Proposals for flood warning systems